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ABSTRACT

This report discusses educational outcomes for Washington state's public high school students, describing national trends in high school reform. Information came from surveys and interviews with teachers, students, and parents and national and state data. Many reforms have been tried nationwide. Most Washington high schools had students in standard grades. The legislature and State Board of Education were responsible for setting high school requirement policies. The 1998-99 annual dropout rate was 4 percent for 9th graders and 7 percent for 12th graders. Over 60 percent of young Washington adults had some additional education after high school. White and Asian American students were most likely to pass the 10th-grade state standardized test. From 1995-99, Washington students had higher average SAT verbal and math scores than the national average. The report describes methodology for determining what educational opportunities and programs are available to students. Seven appendices present tables and data on national trends in high school reform; national networks of school reform; small schools research and grant programs; history of state legislative policy changes for high school; data on Washington's high school and college students and their performance, and additional student performance measures. (Contains 67 references.) (SM)

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Background and Student Outcomes

VOLUME 1

Edie Harding

with

Mason Burley
Barbara McLain
Madeleine Thompson

January 2001

Washington State
Institute for
Public Policy

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The 2000 Legislature enacted Engrossed House Bill 2487. Section 607(4) of the bill directs the Washington State Institute for Public Policy to conduct a study of public high school programs in Washington and report its findings in an interim and final report. This interim report (Volume 1) provides background for the study placing special emphasis on high school student outcomes and performance. The final report (Volume 2) will focus on educational opportunities and programs provided by Washington State public high schools and how these opportunities and programs are changing as a result of the state's education reform.

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EXECUTIVE SUMMARY

Background

The 2000 Washington State Legislature requested that the Washington State Institute for Public Policy (Institute) conduct a study on public high school programs in Washington:

> *The study shall examine what high school educational opportunities are currently available for students. Information shall be gathered on program attributes, student demographics, and outcomes for high school programs including, but not limited to, college credit (e.g. advanced placement and running start), tech prep, distance learning, and career pathways.*[1]

The Institute must report its findings on public high school opportunities and programs to the Legislature in an interim report due January 1, 2001, with a final report due September 15, 2001.

This interim report provides background for the study with a special emphasis on high school student outcomes and performance. The final report will focus on educational opportunities and programs provided by Washington State public high schools and how these opportunities and programs are changing as a result of the state's education reform.

The key research questions addressed in this interim report are:

- **National Trends:** ***Why Reform High School?***
- **Public High Schools in Washington:** ***What Are Their Characteristics, and What Are the State's Policies?***
- **High School Student Performance:** ***What Do We Know?***

National Trends: Why Reform High School?

- Over the last two decades, the traditional American high school has come under criticism for lacking a clear curricular focus, not expecting high achievement for all students, and not providing personalized learning environments to engage students.
- A variety of reforms of high school are being tried across the country. Some focus on creating a demanding and standards-based curriculum, others on encouraging students to link what they learn in school with their future educational and career plans, and still others on changing the school environment. The aims of some reforms appear contradictory. Some reforms attempt to accomplish multiple objectives.

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[1] Chapter 1, Laws of 2000 (EHB 2487 §607(4)).

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- The challenge in sorting through this information for high school administrators and policymakers is to determine which reforms matter, which will work in their communities, and which will address educational needs, not just of some students, but of all students.

Public High Schools in Washington: What Are Their Characteristics, and What Are the State's Policies?

- Seventy-two percent (291) of Washington's 406 high schools have students in "standard high schools" with grades 9 through 12 or 10 through 12. Of these 291 standard high schools, 45 percent have enrollments of over 1,000 students. The average size of standard high schools is 912 students. Twenty-three percent of all high school students are people of color.

- The legislature and the State Board of Education (SBE) are responsible for setting policies for high school requirements. Current policies address the following topics: compulsory attendance, subject standards, assessments, Certificate of Mastery, educational pathways, and subjects and competencies needed for graduation.

- Over the last 30 years, the state has asserted more control over local school districts by establishing policies that follow national trends, such as increased graduation requirements and standards-based reform for all students. Standards-based reform in Washington shifts the expectations for high schools; they will be required to ensure all students, not just college-bound students, master high-level standards.

- Significant questions remain unanswered. Will high school change for 11th and 12th grade students through widespread use of educational pathways, culminating projects, and student plans? Will students who complete the Certificate of Mastery decide to leave school and start college or a job? Will students who cannot master the proficiencies on the Washington Assessment of Student Learning (WASL) drop out of school, pursue an alternative credential, or spend 11th and 12th grades in remediation?

High School Student Performance: What Do We Know?

How much education do Washington students attain?

- The Office of the Superintendent of Public Instruction's annual dropout rate for 1998-99 ranged from 4 percent for 9th graders to 7 percent for 12th graders. The Institute found that 24 percent of the 1995-96 9th grade class, expected to graduate in 1998-99, could not be located. This finding indicates that annual dropout rates might underestimate the cumulative percentage of students who do not complete school over a four-year period.

- An estimated three-quarters of youth under age 19 in Washington graduate "on time." These percentages have remained constant for the last 35 years.

- Young adults continue to finish high school after age 18. The Office of Financial Management's State Population Survey (1997) estimates that 91 percent of young adults aged 25 to 29 have completed high school.

- Sixty-five percent of young adults aged 25 to 29 in Washington have had some additional education after high school. Of these young adults, 9 percent received an associate's degree, and 31 percent received a bachelor's degree or higher.

- Approximately 18 percent of Washington's high school juniors and seniors took college-level learning classes (i.e., Running Start, Advanced Placement, International Baccalaureate, and College in the High School) in which students earn both high school and college credit) in 1998.

How well do Washington students learn?

- The percentage of 10th graders who passed the WASL in 1999-00 included: 60 percent in reading, 35 percent in math, 32 percent in writing, and 78 percent in listening.

- Students of African American, Hispanic, and Native American backgrounds were less likely to pass the 10th grade WASL than Caucasian or Asian American students in 1999-2000.

- Over the last five years (1995-99), Washington students had higher average SAT verbal and math scores than the national average. Washington students' average SAT verbal and math scores have also increased during those five years.

- First-year college students in 1999 received more college credit from Running Start while in high school than from Advanced Placement, International Baccalaureate, or College in the High School courses.

- Former Running Start students entering college in 1999 had high school GPAs above 3.0. During their first year in college, they had GPAs above 2.7.

- According to the 1998 High School *Graduate Follow-Up Study*, 51 percent of college students enrolled in Washington's two-year community and technical colleges and 22 percent enrolled in four-year public universities (excluding Western and Evergreen) took at least one remedial course.

- The percentage of college students who passed the math placement tests in 2000 at four-year public universities ranged from 32 percent to 66 percent.

What are the barriers to learning more about high school student performance?

- Reported dropout rates lack accuracy because there has been no uniform student identifier to match students who may have transferred to another school or dropped out and re-entered school. OSPI expects to have a voluntary statewide uniform student identifier ready to test in the 2001-02 school year.
- Currently, it is not possible to assess individual gains in student performance through a statewide test that measures the students' annual progress.
- With the exception of vocational courses, the state does not collect records on the kinds of courses high school students take to assess the changes in levels of coursework (e.g., remediation and advance placement).
- *The Graduate Follow-Up Study* cannot provide a complete and accurate picture of what happens to high school graduates because there are limitations on matching graduates to college and employment databases.
- Four-year public higher education institutions use different methods to provide data. Some institutions' data cannot be compared over time, such as cumulative GPA.
- The quality of policy-relevant outcome data on high school students is mixed and does not currently provide state policymakers with a solid baseline to determine what impacts education reform will have on Washington's high school students.

Next Steps

The Institute's final report will create a baseline to document what high school educational opportunities and programs are currently available for students and whether these are changing as a result of education reform.

- Eight case studies and a statewide survey will document the strategies high schools are using to help students master the proficiencies described in the state's learning goals: the Essential Academic Learning Requirements (EALRs) and the Washington Assessment for Student Learning (WASL).
- How high schools use educational pathways and other learning opportunities (such as culminating projects and portfolio assessment) will be explored.
- Available information (e.g., national studies, state reports, field data, and other resources) will be summarized regarding educational programs, such as Advanced Placement, Tech-Prep, School-to-Work, and vocational education.
- Student enrollment in selected courses (e.g., college-level learning, math courses, distance learning, and vocational courses) will also be documented.

I. INTRODUCTION

The 1993 Washington Education Reform Act set high expectations for improving student learning. This study explores educational opportunities provided by Washington State public high schools and how these opportunities are changing as a result of the state's education reform.

Background

The 2000 Washington State Legislature requested that the Washington State Institute for Public Policy (Institute) conduct a study on public high school programs in Washington:

> *The study shall examine what high school educational opportunities are currently available for students. Information shall be gathered on program attributes, student demographics, and outcomes for high school programs including, but not limited to, college credit (e.g. advanced placement and running start), tech prep, distance learning, and career pathways.*[2]

The Institute must report its findings on public high school opportunities and programs to the Legislature in an interim report due January 1, 2001 and in a final report due September 15, 2001.

The state's 1993 education reform law has three key components that influence the educational opportunities and programs provided in high schools:

- High schools must teach students the knowledge and skills identified in the state's education standards: the four Basic Education goals[3] and the Essential Academic Learning Requirements (EALRs).[4] High school students' knowledge and skills in meeting the state's standards will be measured using the Washington Assessment for Student Learning (WASL).

- After the State Board of Education determines that the WASL is valid and reliable, high school students, beginning with the class of 2008, must pass the WASL as a part of their graduation requirements to receive a diploma.[5]

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[2] Chapter 1, Laws of 2000 (EHB 2487 §607(4)).

[3] RCW 28A.150.210. Abbreviated version of goals: Goal 1: Read with comprehension, write with skill, and communicate effectively. Goal 2: Know and apply the core concepts and principles of math; social, physical, and life sciences; civics and history; geography; arts; and health and fitness. Goal 3: Think analytically, logically, and creatively and integrate experience and knowledge to form reasoned judgments. Goal 4: Understand the importance of work and how performance directly affects future career and educational opportunities.

[4] RCW 28A.655.060(3)(a). The EALRs are derived from Goals 1 and 2. The timetables for implementation of the EALRS and WASL throughout the K-12 education system vary. Currently, high school students are tested on the WASL for EALRs in reading, writing, communication, and math.

[5] RCW 28A.655.060(3)(c).

- High schools are expected to develop educational pathways for students to explore and prepare for their educational and career options after high school. These pathways include a variety of both academic and vocational programs.[6] Students must be allowed to choose any pathway and change it during high school without delaying their graduation.

In addition, the State Board of Education (SBE) recently changed high school graduation requirements to encourage high schools to examine student competencies rather than just the accumulation of seat time and credits. The SBE has also added requirements for students to complete an individual education plan and a culminating project.[7]

These legislative and SBE policy directions and changes provide a context for the Institute's study of what educational opportunities and programs are available for high school students. A policy advisory committee and a technical advisory committee are guiding the Institute's work. The study is divided into two parts:

- An interim report (due January 2001) which provides information on national trends on reforming high schools, the characteristics of Washington's public high schools, state education reform policies on public high schools, student outcomes (using data from the Office of the Superintendent of Public Instruction and the public institutions of higher education), and a preview of the final report.

- A final report (due September 2001) which will examine high school programs and strategies for improving student learning using a statewide survey of public high schools, case studies of selected high schools, data on student enrollment in selected programs, and national and state research on various educational programs.

Interim Report

This interim report provides information on the first three research questions outlined below and describes the methodology to answer the fourth question for the final report:

1. **National Trends:** ***Why Reform High School?***
    - What are the characteristics of American high schools?
    - Why reform high school?
    - What reforms of high school have been tried in the last 20 years?

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[6] RCW 28A.655.060(3)(c). Educational pathways may include, but are not limited to, work-based learning, school to work transition, tech prep, vocational-technical education, running start, and college preparation.
[7] WAC 180-51. High school graduation requirements.

2. **Public High Schools in Washington:** ***What Are Their Characteristics, and What Are the State's Policies?***

   - What do Washington's public high schools look like?
   - What are the current state expectations for high school students?
   - How has state policy for high school changed?
   - What are some potential barriers to reforming high schools?
   - How might state education reform affect high schools?

3. **High School Student Performance:** ***What Do We Know?***

   - How much education do Washington students obtain (high school completion, dropouts, education after high school)?
   - How well do Washington students learn (graduation requirements, college-level learning, high school test performance, Running Start student performance in college, and remediation in college)?

4. **High School Reform in Washington:** ***What Educational Opportunities and Programs Are Available for Students?***

   - What strategies are used to improve student learning?
   - What curriculum, instructional, and assessment changes are occurring in response to education reform?
   - What educational pathways and learning opportunities are available for students (e.g., culminating projects, career pathways, portfolios, plans, college credit, and vocational programs)?
   - How are families and community members involved in supporting student learning?
   - What are the student demographics and enrollment in certain high school programs?

II. NATIONAL TRENDS: *WHY REFORM HIGH SCHOOL?*

This section summarizes national research on high schools and national results of 20 years of efforts to reform high school. For an expanded review of this research literature, see Appendix A. Additional analyses of the reform efforts in Washington high schools, and available research results regarding specific programs and opportunities for high school students, will be presented in the final report.

What Are the Characteristics of American High Schools?

Over time, the opinions of parents, educators, prospective employers, colleges, and the general public have helped shape the curriculum and organization of American high schools.[8]

A Curriculum With "Something for Everyone." High schools are expected to offer a wide range of courses tailored to the diverse abilities and interests of students. It has generally been assumed that not all students need or are capable of rigorous academic coursework.[9] Students tend to be separated into college preparatory, vocational, or general educational "tracks" based on the type and level of difficulty of courses selected. By 1993, 86 percent of high schools surveyed nationwide reported they structured their curriculum around classes of varying levels of difficulty.[10]

Large, Multi-Purpose Institution. Due to the economies of scale necessary to offer a curriculum and extra-curricular activities that cater to the diverse student body, many high schools have grown quite large. Nationally, high schools average 1,200 or more students.[11] In Washington, the average enrollment in a standard high school is 912 students.[12] In addition, high schools serve multiple functions as social centers for teens and the community.

Why Reform High School?

Many continue to believe high schools should offer a comprehensive curriculum and serve as a multi-purpose institution. However, by the early 1980s the quality of the product—a high school education—was increasingly called into question.

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[8] David Angus and Jeffrey Mirel. 1991. *The Failed Promise of the American High School.* New York: Teacher's College Press. 2.

[9] David Marsh and Judy Codding. 1999. *The New American High School.* Thousand Oaks, CA: Corwin Press. xiii.

[10] National Center for Education Statistics. December 1994. *Curricular Differentiation in Public High Schools* (NCES 95-360). Washington, DC: U.S. Department of Education. 5. Eighty-six percent of 10th graders in surveyed schools were in a tracked math class, and 72 percent were in a tracked English class.

[11] Joseph Murphy, et al. Forthcoming. *The Productive High School: Empirical Evidence.* New York: SUNY Press. 297 of draft manuscript.

[12] A standard high school is defined as a high school with grades 9-12 or grades 10-12 and does not include alternative high schools, juvenile detention schools, or high schools that are combined with a grade lower than 9th. See additional information in Section III regarding enrollment in Washington public high schools.

Lack of Academic Rigor. In 1983, *A Nation at Risk*[13] highlighted falling math, science, and reading scores of American high school students along with declining expectations for academic achievement and an increasing need for college remediation.

Lack of Preparedness for Work. At the same time, other groups criticized both poor preparation and lack of opportunity for the 70 percent of students then unlikely to complete a four-year college degree.[14] Concerns expressed at the time included declines in wages for adults with only a high school degree, changes in the economy driving a need for all workers to receive additional training, and employer complaints about inadequate workforce preparedness of high school graduates.

Low Quality of General Education. By 1982, 58 percent of high school graduates were not specializing in either college preparatory or vocational programs.[15] Researchers who studied tracking practices found that students taking the general education track largely took an unconnected array of courses with no objective, generally received lower-quality instruction, and were more likely to come from minority and low-income backgrounds.[16]

Low Student Engagement in Learning. Surveys of students report low interest or aspiration in academic achievement, little time spent on homework, and a sense of limited relevance between school and the world outside the classroom.[17] Furthermore, some researchers suggest the large size of many high schools creates an impersonal atmosphere where students do not feel connected to the people and purpose of school.[18]

What Reforms of High School Have Been Tried in the Last 20 Years?

Since the 1980s, parents, schools, states, and the federal government have engaged in a wide range of activities aimed at reforming high schools.

Increased Graduation Requirements. In the 1980s, 45 states either increased or initiated statewide graduation requirements. Forty-two states expanded the number of courses required in mathematics, science, or both. The Washington Legislature adopted statewide high school graduation requirements in 1984.[19]

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[13] National Commission on Excellence in Education. 1983. *A Nation At Risk: The Imperative For Education Reform.* http://www.ed.gov/pubs/NatAtRisk/risk.html

[14] William T. Grant Foundation Commission on Youth and America's Future. January 1988. *The Forgotten Half: Non-College Youth in America* (EDRS 290-822). Washington, DC. 36.

[15] National Center for Educational Statistics. February 2000. *Vocational Education in the United States: Toward the Year 2000* (NCES 2000-029). Washington, DC: U.S. Department of Education, Washington, DC. 51.

[16] Jeannie Oakes. 1992. *Educational Matchmaking: Academic and Vocational Tracking in Comprehensive High Schools.* Berkeley, CA: National Center for Research in Vocational Education. 42.

[17] Laurence Steinberg. 1996. *Beyond the Classroom: Why School Reform Has Failed and What Parents Need to Do.* New York: Simon & Schuster. 67.

[18] Murphy, 298.

[19] See Appendix D for the history of Washington's statewide high school graduation requirements.

Research Results:

- Between 1982 and 1998, the average number of total credits earned by high school graduates increased by more than 13 percent; the increase was due to students taking more academic courses. The proportion of students who take mid-level and advanced math and science courses has also increased steadily since 1982.[20] Taking a more rigorous curriculum has been clearly associated with successful college completion.[21]

- Student scores on national math and science tests have shown a steady increase since 1982 (particularly in math), although reading scores have not changed.[22]

- By 1992, nationwide dropout rates between 10th and 12th grade were half what they had been in 1982.[23] However, some studies say increased graduation requirements might lead to higher dropout rates.[24]

- More high school graduates are starting college compared with ten years ago (two-thirds in 1997, and one-half in the early 1980s).[25] However, the rate of completion of a four-year degree has not increased at the same pace as college entrance.[26]

Efforts to Link School and Career. Federal initiatives in the early 1990s, such as Tech Prep and School-to-Work, attempted to increase the academic rigor of vocational education, improve the preparation of students for careers that require post-secondary training, and create programs and strategies to help students transition successfully to work or further education after high school. Strategies include integration of academic and vocational education, creation of career pathways, and work-based learning opportunities where students learn to apply their knowledge and skills in a work environment. Washington has received federal grants to implement both Tech Prep and School-to-Work initiatives.

Research Results:

- In order to avoid being associated solely with vocational education (and thus have limited appeal to students and parents), Tech Prep and School-to-Work efforts have been expanded to appeal to all students. However, this has made it difficult to determine how many students have participated or whether these strategies are effective.[27] Nationally, few students are taking courses organized around career goals or are participating in workplace experiences linked to school.[28]

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[20] National Center for Educational Statistics. February 2000. *The Condition of Education 2000* (NCES 2000-029). Washington, DC: U.S. Department of Education. 44, 157.

[21] Office of Educational Research and Improvement. June 1999. *Answers in the Toolbox: Academic Intensity, Attendance Patterns, and Bachelor's Degree Attainment.* Washington, DC. http://www.ed.gov/pubs/Toolbox

[22] National Center for Educational Statistics. June 1999. *The Condition of Education 1999* (NCES 1999-022). Washington, DC: U.S. Department of Education. 3-4.

[23] National Center for Education Statistics. October 1996. *A Comparison of High School Dropout Rates in 1982 and 1992* (NCES 96-893). Washington, DC: U.S. Department of Education.

[24] *Education Week.* March 29, 2000. "Study Links Dropout Rates With Course Requirements." Researchers from Cornell University and the University of Michigan analyzed data on high school dropouts compared with changes in Carnegie units required for graduation.

[25] Samuel Halperin, ed. 1998. *The Forgotten Half Revisited.* Washington, DC: American Youth Policy Forum. 94.

[26] National Center for Educational Statistics, *The Condition of Education 2000.* 157.

- More vocational students nationwide are also taking a core academic curriculum (an increase from 5 percent in 1982 to 45 percent in 1998)[29] and are improving their achievement on math and reading scores.[30]

- Nationally, student enrollment in vocational courses declined by nearly every measure between 1982 and 1994. Most attribute this to increased high school graduation requirements and more academic course-taking: students have less time to take vocational courses.[31]

Redesigning High Schools. Reforms of high school have occurred through national efforts such as the Coalition of Essential Schools, New American High Schools, and High Schools That Work. Only a few Washington high schools currently participate in these national efforts.[32] Reforms have also occurred at the district and building level through the creation of alternative high schools, smaller schools or schools-within-schools,[33] magnet schools with specialized curriculum, and Career Academies. In addition, parents and teachers in 36 states and the District of Columbia have created their own high schools through the charter school process. Many of these efforts, in addition to establishing new curricula, attempt to change the overall environment of the school in order to increase student engagement in learning.

Research Results:

- In the High Schools That Work project, integration of academic and vocational courses for students seeking careers after high school has raised student achievement in math, science, and English. However, implementation of these rigorous courses has been uneven.[34]

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[27] Mathematica Policy Research Inc. 1998. *Focus for the Future: The Final Report of the National Tech-Prep Evaluation.* Washington, DC: U.S. Department of Education. 5; and Mathematica Policy Research, Inc. July 1998. *Building Blocks for a Future School-to-Work System: Early National Implementation Results. Executive Summary.* Washington, DC: U.S. Department of Education. 2-3.

[28] Mathematica Policy Research, Inc. *Building Blocks for a Future School-to-Work System.* 62. Twelve percent of students perceived their courses were organized around a career goal; 16 percent had work experience linked to school; only 2 percent participated in all three: career development, career-oriented courses, and work-based learning.

[29] *Education Week.* September 27, 2000. "Mix of Academics, Technical Skills Heralds 'New Day' in Voc Ed."; and National Center for Educational Statistics. *Vocational Education in the US: Toward the Year 2000.* 63.

[30] National Center for Educational Statistics. *Vocational Education in the US: Toward the Year 2000.* 79.

[31] Ibid, 49-51.

[32] See Appendix B for more information on these national efforts.

[33] See Appendix C for a review of research on small schools and schools-within-schools.

[34] Southern Regional Education Board. 1996. *The 1996 High Schools That Work Assessment.* 1. http://www.sreb.org/Programs/hstw/96 *assessment*

- Most research shows that students in smaller high schools do better in school than students in larger schools.[35] This result may be in part because other reforms are easier to achieve with fewer students and fewer teachers.[36] Intentionally creating smaller groups of students and teachers by creating schools-within-schools seems to have a positive effect on student attitudes, but the effect on student achievement is less clear.[37] (See Appendix C for an in-depth review of small schools research and programs.)

- Minority and low-income students benefit the most from such redesign efforts as Career Academies and small schools. Even where research findings show mixed results on improving student achievement, the performance of minority and low-income students clearly improves.[38]

High Standards for All Students. In the 1990s, 49 states (including Washington) began setting high standards for what students should know and be able to do and started developing assessments to measure progress. For high schools, standards-based reformers have advocated a more common core curriculum, at least through 10th grade, capped by a demonstration of competency in the standards before graduation.[39] Some also recommend students complete a project or culminating activity that shows they can use their knowledge and skills outside the classroom.[40]

***Research Results*:**

- Standards-based reform is new for most high schools, so its effect is largely unknown. As of 2000, eight states require their graduates to master 10th grade standards; 12 additional states (including Washington) report they will require this in the future.[41]

- Although high schools are experimenting with a wide range of performance assessments, such as senior projects, portfolios, and culminating activities, it is largely unknown whether they are reliable measures of what students know and can do or how well they predict future performance outside the school.[42]

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[35] Kathleen Cotton. 1996. "School Size, School Climate, and Student Performance." *Close-Up #20.* Portland, OR: Northwest Regional Educational Laboratory. About half the research shows smaller school size is linked to improved student achievement (the other half shows no effect). Most research shows a positive effect of small school size on student engagement, attitude, behavior, and participation in school activities. Both types of effects are even greater for disadvantaged students. "Smaller" generally means 300 to 800 students, although there is limited research to support a particular size. See Appendix C.

[36] Valerie Lee and Julia Smith. October 1995. "Effects of High School Restructuring and Size on Early Gains in Achievement and Engagement." *Sociology of Education* 4 (68) 16; and Kathleen Cotton. December 1996. "Affective and Social Benefits of Small-Scale Schooling." *ERIC Digest*, EDO-RC-96-5. 3.

[37] Mary Anne Raywid. 1996. "Taking Stock: The Movement to Create Mini-Schools, Schools-Within-Schools, and Separate Small Schools." ERIC Clearinghouse on Urban Education. http://eric-web.tc.columbia.edu/monographs/uds108/outcome.html, pp. 1-2.

[38] Kathleen Cotton. "School Size, School Climate, and Student Performance." 5; and Mathematica Policy Research Inc. March 1999. *Key High School Reform Strategies: An Overview of Research Findings.* Washington, DC: Office of Vocational and Adult Education. 68.

[39] Marsh and Codding. *The New American High School.* 20.

[40] Ibid, 53.

[41] Craig Jerald. January 13, 2000. "The State of the States." *Education Week: Quality Counts 2000* XIX (18). 73.

[42] Mathematica Policy Research Inc. *Key High School Reform Strategies.* 77.

Synopsis: Conclusions Difficult to Draw From Multiple Reform Efforts. When trying to determine the effectiveness of a particular reform, researchers are hampered by the fact that high schools usually try more than one restructuring strategy at the same time.

Some reform efforts are intended to accomplish multiple objectives. For example, creating career pathways within high schools is an effort to link school and career by having students explore different career and education options. When pathways are organized around subject areas or themes (such as "business" or "social services"), they are also an attempt to increase student engagement in learning and reduce tracking of students. Students are encouraged to explore pathways based on their interests; students with different post-high school plans (e.g., four-year college, technical college, work) may be grouped into the same pathway.

At the same time, the aims of some reforms appear contradictory, such as increasing academic rigor while addressing the learning needs of students not likely to complete college. The challenge for high schools and policymakers is determining which reforms matter, which will work in their communities, and which will address the educational needs, not just of some students, but of all students.

Summary of National Trends

- Over the last two decades, the traditional American high school has come under criticism for lacking a clear curricular focus, not demanding high achievement from all students, and not providing personalized learning environments to engage students.

- A variety of high school reforms are being tried across the country. Some focus on creating a demanding and standards-based curriculum, others on encouraging students to link what they learn in school with their future educational and career plans, and still others on changing the school environment. The aims of some reforms appear contradictory. Some reforms attempt to accomplish multiple objectives.

- The challenge in sorting through this information for high school administrators and policymakers is to determine which reforms matter, which will work in their communities, and which will address educational needs, not just of some students, but of all students.

III. PUBLIC HIGH SCHOOLS IN WASHINGTON: *WHAT ARE THEIR CHARACTERISTICS, AND WHAT ARE THE STATE'S POLICIES?*

This section examines Washington's public high schools from a statewide perspective in five areas: (1) characteristics of Washington's public high schools, (2) state expectations for high school students, (3) a history of state polices for high schools, (4) some potential barriers to high school reform, and (5) potential impacts of education reform on high schools.

What Do Washington Public High Schools Look Like?

Categories of High Schools. There are 406 public schools in Washington that have high school students. Ninety-two percent of the students are enrolled in a standard high school configuration of 9th through 12th grades or 10th through 12th grades (see Table 1).

Table 1
Categories of Public High Schools, 1998-99 School Year

Categories	Number of Schools	Percent of Schools	Percent of Student Enrollment
Standard high schools (grades 9-12 or 10-12)	291	72%	92%
Alternative high schools[43]	84	21%	6%
High school combined with middle school or elementary school	20	5%	2%
Institutional school in juvenile detention facility	11	2%	< 1%
Total	406	100%	100%

Source: OSPI 1998 High School Building Data

High School Size. Of the 291 standard high schools, enrollment ranges from under ten students to 2,500. Of these standard high schools, 45 percent have enrollments of over 1,000 students. The average enrollment in standard high schools is 912 students (see Table 2).

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[43] Alternative high schools are defined as schools using a non-traditional curriculum according to OSPI supervisor of alternative education, Martin Mueller, in an e-mail dated October 10, 2000.

Table 2
Standard High School Size, 1998-99 School Year

High School Student Enrollment	Number of Schools	Percent of Schools	Average Enrollment	Percent of Total Enrollment
More than 2,000	7	2%	2,209	6%
1,501 – 2,000	53	18%	1,685	34%
1,001 – 1,500	74	25%	1,241	35%
501 – 1,000	56	19%	718	15%
251 – 500	60	21%	368	8%
250 or less	41	14%	156	2%
Total	291	100%	912	100%

Source: OSPI 1998 High School Building Data

Student Enrollment by Race and Ethnicity. In the 1998-99 school year, there were 302,481 students enrolled in grades 9 through 12. The proportion of the K-12 student population from a non-Caucasian background has increased from 7 percent to 22 percent in the last 30 years.[44] Table 3 shows the total 9th through 12th grade enrollment during the 1998-1999 school year by race and ethnicity. Twenty-two percent of high school students are students of color.

Table 3
High School Enrollment by Race and Ethnicity, 1998-99 School Year

	African American	Asian and Pacific Islander	Native American	Hispanic	Caucasian	Total
Number of Students	13,714	22,818	7,695	22,063	236,191	302,481
Percent of Total	5%	8%	3%	7%	77%	100%

Source: OSPI Data on Enrollment by race and ethnicity for 1998-99 in grades 9 through 12.

What Are the Current State Expectations for High School Students?

The state has laws regarding compulsory school attendance and statewide learning goals and assessments for high school students. The State Board of Education (SBE) is responsible for establishing minimum high school graduation requirements. Key expectations established by the state for high school students are described in Table 4.

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[44] OSPI website: www.k12.wa.us/dataadmin, Public School October Enrollment Comparisons.

Table 4
What the State Expects of High School Students for 2000-2001

Requirement	Description
Compulsory Attendance	Students must attend school at least until the age of 16 unless they meet certain conditions.[45]
Subject Standards	Students will be taught the knowledge and skills necessary to meet the statewide learning goals and Essential Academic Learning Requirements (EALRs) at Benchmark III[46] in reading, writing, math, communication, science, social studies, art, health, and fitness.[47]
Assessments (Tests)	Students will take the Iowa Test of Educational Development (ITED) in the 9th grade and the Washington Assessment of Student Learning (WASL) during high school, usually in 10th grade.[48] There will also be locally determined assessments on the EALRs.
Certificate of Mastery	When the State Board of Education determines that the WASL is valid and reliable, students who meet the standards on the WASL will receive a Certificate of Mastery.[49] (The class of 2008 is expected to be the first class that will be affected by this requirement.)
Educational Pathways	After students complete a Certificate of Mastery, they will have the opportunity to explore career and educational objectives through educational pathways.[50]
Graduation Requirements* *Although the minimum number of credits was not changed, see Table 6 for other changes to high school graduation requirements recently adopted by the SBE.	Students must take a minimum of 19 credits in certain subject areas to graduate from high school.[51] • English (3 credits) • Mathematics (2 credits) • Science (2 credits) • Social Studies (2.5 credits) • Occupational Education (1 credit) • Physical Education (2 credits) • Restricted credit preferably in the arts (1 credit) • Elective non-restricted credits (5.5 credits)

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[45] RCW 28A.225.010. Conditions include that a 16-year-old is regularly employed, has parental agreement that child does not have to attend school, has met the graduation requirements, or has received a certificate of education competency.

[46] Benchmark III refers to the knowledge and skills students would be expected to demonstrate at approximately grade 10 in reference to each of the EALRs. Benchmarks I and II have been established for grades 4 and 7, respectively. An example of a Benchmark III expectation for reading would be: "Student reads a full range of tests purposefully and automatically (instructions, news articles, poetry, novels, short stories, professional materials that match career or academic interests)."

[47] RCW 28A.150.210 and 28A.655.060. Additional subjects will have EALRs established at later dates.

[48] RCW 28A.655.070. The law does not specify when the WASL must be taken, but the intent of the legislation is for most students who pass the WASL to receive their Certificate of Mastery by the age of 16. Currently, the high school WASL for 2001 covers reading, writing, listening, and math.

[49] RCW 28A.655.060 and WAC 180-51-063. The Certificate of Mastery becomes a graduation requirement for the Class of 2008.

[50] RCW 28A.655.070.

[51] WAC 180-51-060.

How Has State Education Reform Policy for High Schools Changed?

Legislative Policies. Over the last 30 years, the legislature has asserted more state control over local school districts by establishing certain requirements for high schools and high school students in Washington. The legislature's actions follow national trends to increase graduation requirements, link school and career, redesign the high school environment, and set high standards for all students.

Table 5

History of Legislative Policies for High Schools[52]

Decade	Major Policies
1970	• Requested OSPI conduct the first **statewide standardized tests** on a sample of 8th and 11th graders. • Required school districts to develop **student-learning objectives.** • Provided substantial state funding to build **skills centers** to enhance the vocational education offerings available to high school students.
1980	• Created **specific high school graduation requirements** and required the SBE to develop a **standardized high school transcript** to enable a comparison between different schools' credit systems (e.g., quarter, semester, and trimester). • Required public four-year baccalaureate institutions establish **uniform minimum entrance requirements.** • Provided grants through the **Schools for the Twenty-First Century Program** to foster change in the common school system and improve student performance at all levels.
1990	• Created a number of initiatives aimed at reforming high schools: ✓ **Running Start**, which allows dual credit enrollment in high school and certain colleges; ✓ Pilot projects to enhance **academic/vocational integration**; and ✓ Start-up grants for **alternative education** and **internet-based curriculum.** • Specified that certain information be collected on high school students: ✓ **Graduation and dropout rates**; ✓ **Remedial** courses taken in college; and ✓ **Post-graduate** experiences. • **Removed high school credit requirements from the statutes** to increase flexibility for the SBE to set policy. • Enacted the 1993 Education Reform Act which significantly increased the role of the state: ✓ Established **Statewide Essential Academic Learning Requirements (EALRs)** and standards that students should meet in benchmark grades;[53] ✓ Required students to **pass the 10th grade WASL** to earn a **Certificate of Mastery** and receive **a high school diploma once the SBE has determined that the WASL is valid and reliable;**[54] and ✓ Required schools to provide students who have earned a Certificate of Mastery with opportunities to pursue **educational pathways.**[55]

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[52] See Appendix D for more in-depth information and statutory citations.

[53] The benchmark grades are 4, 7, and 10.

[54] Excluding Washington, 24 states have an exit exam in place, or planned for the future, for graduation. For more information see: www.ecs.org/ecs.

[55] RCW 28A.655.060(3)(c).

The state legislature has gradually increased its oversight role for high schools to establish some consistent performance expectations for students. However, the question remains: To what extent are high schools restructuring their curriculum and programs to meet state policy expectations?

State Board of Education Policies. In 1984, the Legislature established the first minimum state high school graduation requirements and assigned the SBE to oversee graduation policies. Since 1992, the SBE has had full responsibility for setting graduation requirements.[56] Students are required to take 19 credits in particular subject areas to receive a public high school diploma.[57] Local school districts have the option to require additional credits or activities. In June 1999, the SBE modified the definition of high school credit to allow for learning outside the classroom as approved by the district.

High School Graduation Requirements. In 1998, the SBE began to review high school graduation requirements to ensure alignment with the Education Reform Act. In October 2000, the SBE amended the state's minimum graduation requirements, beginning with the 9th grade class in 2004. Highlights of the SBE changes are discussed below:

- **Competencies.** The option for students to demonstrate competency as an alternative to earning credits through course hours reflects the SBE's commitment to promote performance-based education. However, no definitions or guidance are provided for how to translate competencies into credits. The Higher Education Coordinating Board (HECB) has worked on this task with a small number of high schools on a pilot basis (see discussion below). It is unclear how many districts will use the competency option to award credits toward graduation.

- **Culminating Projects and Education Plans.** The new requirement for culminating projects is somewhat controversial. The SBE heard conflicting testimony about whether the state will overburden high schools as they attempt to meet other expectations of education reform. The SBE's decision to adopt a culminating project was based on the desire for students to use their knowledge and skills to pursue a specific interest in a way that regular coursework might not provide. The "high school plus" education plan allows students to plan what coursework and experiences they want to have in high school as well as what they might want to do in the year following high school graduation. The projects and plans are also intended to highlight Goal 3 and Goal 4 of the Basic Education Act.[58] The specifics of what high schools require of students in preparing their culminating projects and education plans are left up to local school districts.

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[56] Chapter 278, Laws of 1984 set graduation requirements in statute and made the SBE responsible for developing and establishing procedures for students to meet equivalencies of the required courses and credits. The Legislature removed the requirements from statute in 1992, giving the SBE complete authority over graduation requirements.

[57] One credit equals 150 hours of planned instructional activities approved by the district.

[58] RCW 28A.105.210. Goal 3: Think analytically, logically, and creatively, and integrate experience and knowledge to form reasoned judgments and solve problems. Goal 4: Understand the importance of work and how performance, effort, and decisions directly affect career educational opportunities.

Table 6 outlines the major changes made by the SBE to high school graduation requirements.[59]

Table 6

Changes to High School Graduation Requirements Adopted in 2000[60]

Changes to Graduation Requirements	
Competencies	Minimum state credits by subject area were not changed, but high schools have the option to award credits toward graduation based on demonstrated competencies rather than accumulated hours spent in courses.[61]
Alignment With EALRs and WASL	For each subject area, minimum required content was defined to include Benchmark III[62] of the EALRs. Additional content can be defined locally. High schools must assess the required content using the WASL (for tested subjects).
Culminating Project	Each student must complete a culminating project to demonstrate learning competencies and preparations related to state learning goals 3 and 4.
High School Plus Education Plan	Each student must create an education plan for the four years of high school plus one additional year to plan for what the student wants to do after high school graduation.

Certificate of Mastery. The SBE is also responsible for determining if the high school WASL is reliable and valid. Once this determination is made, successful completion of the WASL leads to the award of a Certificate of Mastery. By statute, receiving the Certificate of Mastery is a requirement for graduation.[63] The SBE has established that the initial Certificate of Mastery will become a graduation requirement for the class of 2008. The initial Certificate of Mastery will require students to pass the WASL successfully in the four subject areas currently tested: reading, writing, communications, and mathematics.[64] An advisory committee is currently reviewing the reliability and validity of the WASL and will submit its findings to the SBE in May 2003. The committee may also make further recommendations about whether to retain the requirement for a Certificate of Mastery to graduate.[65]

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[59] For the new SBE administrative rules, see www.k12.wa.us.sbe/gradrq/NewGradRe.doc.

[60] WAC 180-51-003, 005, 050, 061, 135.

[61] In addition, student transcripts for the class of 2003 will indicate which subjects the student passed on the WASL, as well as the student's attendance record.

[62] Benchmark III refers to the knowledge and skills students would be expected to demonstrate at approximately grade 10 in reference to each of the EALRs. An example of a Benchmark III expectation for reading would be: "Student reads a full range of tests purposefully and automatically (instructions, news articles, poetry, novels, short stories, professional materials that match career or academic interests").

[63] RCW 28A.655.060.

[64] WAC 180-51-063.

[65] WAC 180-51-064.

Higher Education Coordinating Board Policies. The Higher Education Coordinating Board (HECB) is responsible for setting minimum college admissions requirements for entry into Washington State public institutions. After the 1993 Education Reform Act passed, the HECB convened an advisory committee to work on aligning college admissions policies with state education reform.[66] The HECB has adopted the following policies in support of K-12 reform.

Competencies for College Entrance. Since 1995, the advisory committee has been working to develop a competency-based approach for college admission. Like high school graduation requirements, HECB college admissions requirements are based on numbers of credits earned in particular subject areas.[67] The advisory committee first translated the minimum credits into descriptions of subject area content students are expected to master for college entrance (i.e., competencies). The HECB adopted the committee's recommended competencies in English, math, and world languages in June 1997. Competencies in science were adopted in March 2000.[68]

A pilot project with four high schools was initiated to identify what types of student work (assignments, papers, tests) would demonstrate successful mastery of the content in each subject area. High school teachers and college faculty met to discuss and score samples of student work to reach a common understanding of how the competencies could be practically applied.[69] These four pilot projects continue, and the HECB has proposed expanding the number of participating schools to 12 in 2001.[70]

When the HECB began its work, it was widely believed that state education reform would shift K-12 education entirely to a performance-based system. However, as mentioned, it is not clear how many high schools will pursue the SBE's new option of awarding graduation credits based on competencies. The experience of the HECB pilot projects suggests that creating a common understanding of what type and level of student performance meets a competency-based standard is time consuming (and, potentially, expensive).[71]

Certificate of Mastery. In adopting competencies in English, math, world languages, and science, the HECB has also adopted a requirement that Washington students attain a Certificate of Mastery in order to be admitted as a freshman to a four-year public institution.[72] The HECB competencies assume that students will have achieved a level of knowledge and skills *beyond* Benchmark III of the EALRs. Benchmark III is currently the standard for receipt of the Certificate of Mastery. The competency-based admissions standards will be implemented beginning with the high school graduation class of 2008.[73]

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[66] RCW 28A.655.060 directed the Commission on Student Learning to study how college entrance requirements could be made consistent with the EALRs and Certificate of Mastery. Under these auspices, the HECB convened its advisory committee on competency-based college admission.

[67] The HECB requires four years of English, three years of math, three years of social studies, two years of science, two years of world language, and one year of arts, as well as specified content in the areas listed. Public four-year colleges also use an admissions index based on a combination of GPA and SAT/ACT test scores.

[68] National Center for Higher Education Management Systems (NCHEMS). May 15, 2000. *Washington HECB Competency-Based Admissions Evaluation Report*. Boulder, CO. 5.

[69] The pilot schools are Kamiakan (Kennewick), Selah, Mountlake Terrace (Edmonds), and Lake Washington.

[70] Conversation with Doug Scrima, HECB staff.

[71] NCHEMS, 8.

[72] Because home-schooled students, students from out-of-state, and students from private institutions have been legislatively exempted from having to earn a Certificate of Mastery, the HECB will continue to rely on existing minimum admissions standards for these students. Transfer students and returning adults will continue to be evaluated with criteria specific to their situation.

[73] Higher Education Coordinating Board. January 7, 1999. *Report to the Legislature on Competency-Based Admissions Standards.* Olympia, WA; and conversation with Doug Scrima, HECB staff.

What Are Some Potential Barriers to Reform in High Schools?

As the Institute proceeds to document high school educational opportunities through case studies and surveys, it is important to note potential barriers to change and reform in high schools. Transforming the state's intentions for education reform into reality represents a significant task. Some barriers to change exist in all schools, such as adequate leadership, resistance to the newest in a long series of reform initiatives, or concern about relying primarily on test results to gauge student learning.[74] However, many believe that high schools in particular have been slow to change in response to reforms initiated from outside the school. In attempting to change, high schools face a number of challenges:

- **Motivating students.** High schools must educate many different students. In an effort to keep as many students as possible enrolled, high schools offer a broad curriculum with a variety of electives, sports, and clubs to appeal to different interests. There is concern that focusing the curriculum on academic courses and expecting students to achieve at higher levels will cause more students to drop out.

- **Addressing low academic preparedness.** A number of students have been promoted from grade to grade despite deficiencies in basic skills. By the time these students reach high school, their learning deficits can prevent them from successfully participating in the core curriculum offered. Yet, the high school is expected to help them achieve and meet the new learning standards.

- **Overcoming the size and organization of the school.** Many high schools are large. Most are compartmentalized into subject matter departments. Teachers have an average of 100 to 150 students daily, making it difficult to create personal relationships between students and teachers. Teachers who are experts in their subjects and who believe they are successful with students may be reluctant to have their content dictated from outside their own classroom.

- **Competing demands from parents, colleges, employers, and students.** Different constituencies have competing expectations for high school students. Some want scholarship athletes, others place a priority on job skills, and others expect students to obtain a traditional academic background. An unprecedented proportion of high school students report that they want to go to college. But are students adequately informed about the demands of college or their other options?

- **Convincing students that academic accomplishments are worthwhile.** In the United States, students are encouraged to pursue a variety of activities in addition to academics. Many teens find more reward in excelling in sports, working at a job to make spending money, and socializing with friends than in doing well academically. Students know they can graduate from high school in spite of low grades; community colleges will accept all students who apply to give them another chance. Employers do not ask for high school transcripts to see how well students have done.[75]

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[74] The comments that follow were compiled from presentations and discussions on high school and standards-based education at the annual American Educational Research Association meeting in New Orleans, April 24-28, 2000.

[75] The Partnership for Learning and the Washington Roundtable have started an "Ask for Transcripts" campaign in local business communities around Washington.

How Might State Education Reform Affect High Schools?

The Institute's final report will examine what effect the state's education reform is having on the educational opportunities and programs available to high school students. Washington's education reform is part of a nationwide movement toward standards-based education. Under standards-based education, specific content standards for subject areas are defined, and all students are expected to master them. Mastery of the standards is demonstrated through a formal assessment. This represents a shift in expectations: high schools will be required to ensure that all students, not just college-bound students, master high-level standards.

Once students have mastered the expected proficiencies in the EALRs and achieved a Certificate of Mastery, high schools must provide them with a variety of educational pathways. Educational pathways are intended to assist students with education and career objectives for options beyond high school. Decisions about what constitutes a pathway, how they work, and how students pursue them are left to individual schools.

A number of significant questions remain unanswered as state education reform moves into high schools. Will high school change for 11th and 12th grade students through widespread use of educational pathways, culminating projects, and student plans? Will students who complete the Certificate of Mastery decide to leave high school and start college or get a job? Will students who cannot master the proficiencies on the WASL drop out of school, pursue an alternative credential, or spend 11th and 12th grades in remediation?

The study will set a baseline regarding the educational opportunities and programs offered in high schools. But it can only begin to answer the many questions people have about the effects of education reform. Washington's 1993 education reform has many requirements that will not be fully in place for almost another decade.

Summary of Washington's Public High Schools and State Policies

- There are 406 schools in Washington with high school students. Seventy-two percent are standard high schools with grade configurations of 9 through 12 or 10 through 12. Of the standard high schools, 45 percent have enrollments of over 1,000 students. The average size of the standard high school is 912 students. Twenty-three percent of all Washington high school students are people of color.

- The legislature and the SBE are responsible for setting policies for high school requirements. Policies already in place address the following topics: compulsory attendance, subject standards, assessments, Certificate of Mastery, educational pathways, and subjects and competencies needed for graduation.

- Over the last 30 years, the state has asserted more control over local school districts by establishing policies that follow national trends, such as increased graduation requirements, efforts to link school and career, redesign of the high school environment, and high standards for all students. Other policies have been shaped in Washington, such as the Legislature's creation of Running Start, the SBE's encouragement of competency-based learning and the requirement of culminating projects, and student education plans for graduation (for the class of 2008).

- High schools may have been slow to change in the past due to a number factors, including lack of student motivation, few incentives for high academic achievement, differing expectations from parents and the community, and the organization and size of typical high schools.

- Standards-based reform shifts what is expected from high schools and what high schools expect from students. High schools will be required to ensure that all students, not just college-bound students, master high-level standards. But significant questions remain unanswered for the majority of high schools in the state. Will high school change for 11th and 12th grade students through widespread use of educational pathways, culminating projects, and student plans? Or, will students who complete the Certificate of Mastery decide to leave school and start college or a job? Will students who cannot master the proficiencies on the WASL drop out of school, pursue an alternative credential, or spend 11th and 12th grades in remediation?

IV. HIGH SCHOOL STUDENT PERFORMANCE: *WHAT DO WE KNOW?*

High school student performance[76] will be examined through two key questions:

- ***How much education do students attain (educational attainment)?***
- ***How well do students learn (educational proficiency)?***

The specific performance measures used to examine these questions are highlighted in the box below:

Performance measures of *educational attainment* examined:

- High school dropouts
- High school completion
- Education after high school
- Course enrollment in high school
- College-level learning for high school students

Performance measures of *educational proficiency* examined:

- High school test performance
- Running Start student performance in college
- Remediation in college

Educational Attainment

Public High School Dropouts

The Office of the Superintendent of Public Instruction (OSPI) collects annual data on all enrolled public high school students including dropouts, transfers, graduations, and whether a student's status is unknown. The annual dropout rate for 1998-99 by grade level increases from 4 percent in 9th grade to 7 percent in 12th grade as shown in Figure 1.[77] Figure 2 shows the annual dropout rate is higher for certain racial and ethnic categories. Dropout rates in grades 9 through 12 are highest for Hispanics and Native Americans (9 percent).

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[76] See Appendix E, Student Data Sources in Washington, for a description of the different data bases available.

[77] OSPI calculates annual dropout rates using high school students who have dropped out of school during the year reported. OSPI does not include an "unknown" category of students for whom there is no information available. The annual unknown status for grades 9-12 is approximately 6 percent. Currently, OSPI does not calculate a cumulative dropout rate to assess the impact of how many students drop out over a three- to four-year timeframe while in high school. The annual dropout number reflects a lower percentage than actually occurs over time.

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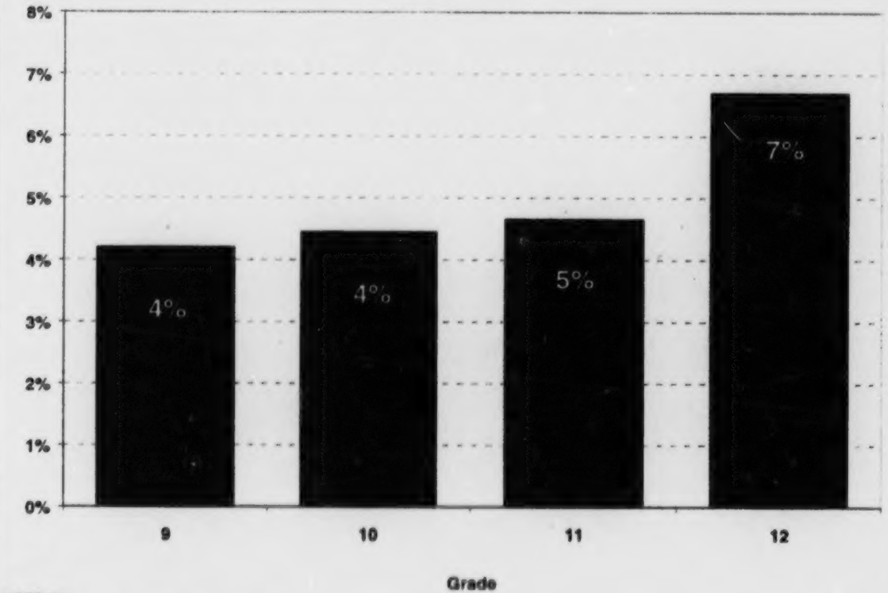
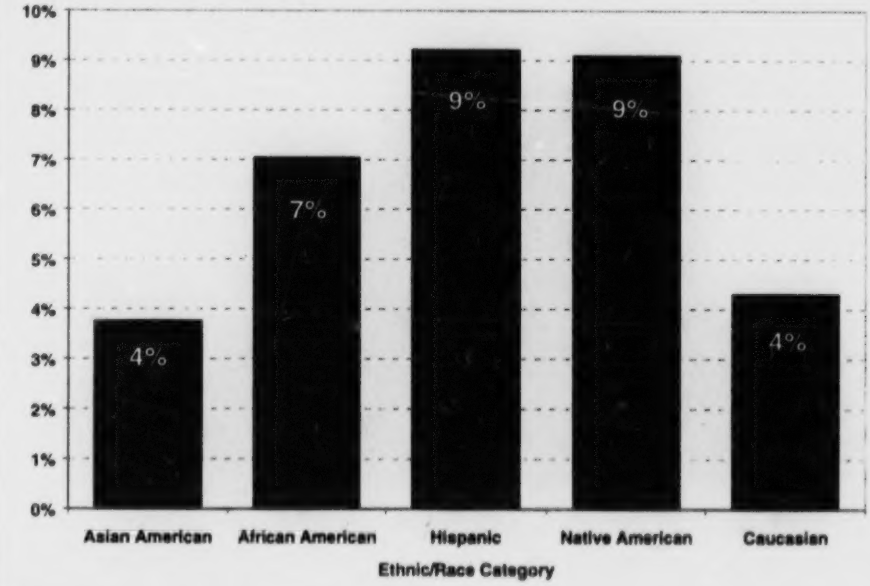
Figure 1
Percent of Annual Public High School Dropouts by Grade, 1998-99



WSIPP 2001
Source: OSPI P210 1998-99 Data Unduplicated Count
Total enrollment=321,307; Total dropout=15,776

Figure 2
Percent of Annual Public High School Dropouts by Race/Ethnicity, 1998-99
9th – 12th Grades



WSIPP 2001
Source: O SPI 210 1998-99 Data Unduplicated Count
Total enrollment grades 9-12=321,307; Asian American=24,450; African American=15,396; Hispanic=25,587; Native American=6,570; Caucasian=247,304

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In addition to dropout statistics, the OSPI database also records students whose status is unknown. These students may have enrolled under a different name while continuing to attend a public school in Washington, transferred out-of-state, enrolled in a private school or home schooling, or elected not to attend school. (Students are not required to attend school after age 16 based on certain conditions.[78])

On average, 6 percent of students in each grade in 1998-99 fall under this unknown status. Previous counts of enrollment statistics have revealed that some students classified with an unknown status one year reappear as enrolled students in subsequent years. One of the present difficulties in counting students arises from the lack of a common student identifier to monitor student mobility throughout the state.

The annual dropout and unknown status rates distort the number of students actually leaving high school. To address this problem, the Institute examined a class of 9th graders as they progressed through high school.[79] Figure 3 displays the four-year follow-up for 9th grade students enrolled in Washington public schools during the 1995-96 school year.[80]

As displayed in Figure 3, the greatest numbers of students leave school between grades 9 and 10 (10 percent) and between grades 10 and 11 (9 percent). By the fourth year, 24 percent of 9th grade students in the class of 1995-96 could not be located.[81]

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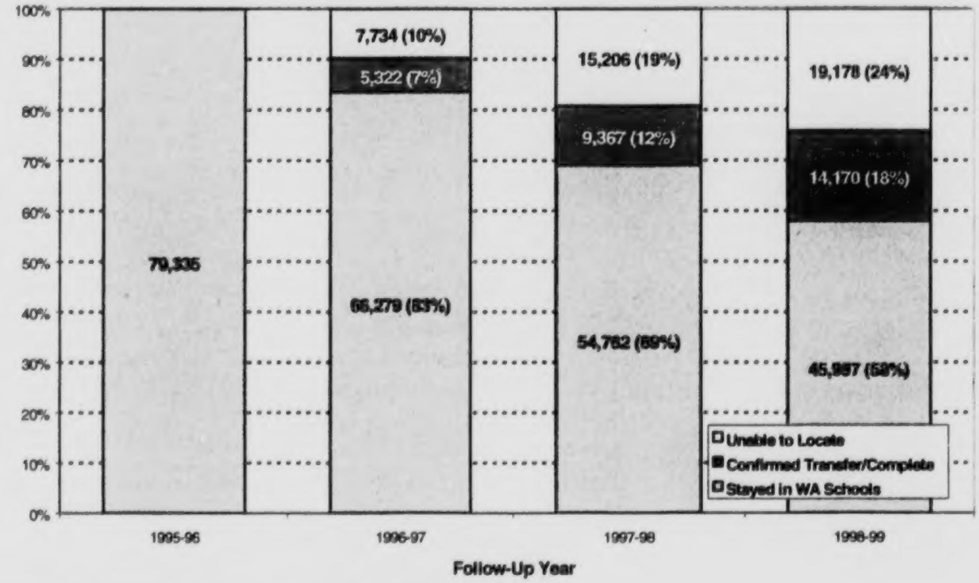
[78] RCW 28A.225.010.

[79] The 9th grade class of 1995-96 public school students' enrollment records were matched to three subsequent years (1996-99).

[80] This analysis does not account for students who may have enrolled in the subsequent three years but were not enrolled in 1995-96. In addition, students of the same age who entered Washington schools in later grades are not included in this follow-up. Between grades 9 and 12, students may: (1) remain in the same school district or transfer to another district within the state; (2) report a confirmed transfer to another public or private school system; (3) leave the school system without reporting their current status; or (4) leave the state.

[81] The Institute was unable to provide the exact percentage of students who dropped out or transferred without confirmation by the state. Some of these students are likely to re-enroll during the following school year. Approximately 7 percent of 12th graders enrolled in 1997-98 were enrolled as 12th graders during the 1998-99 school year.

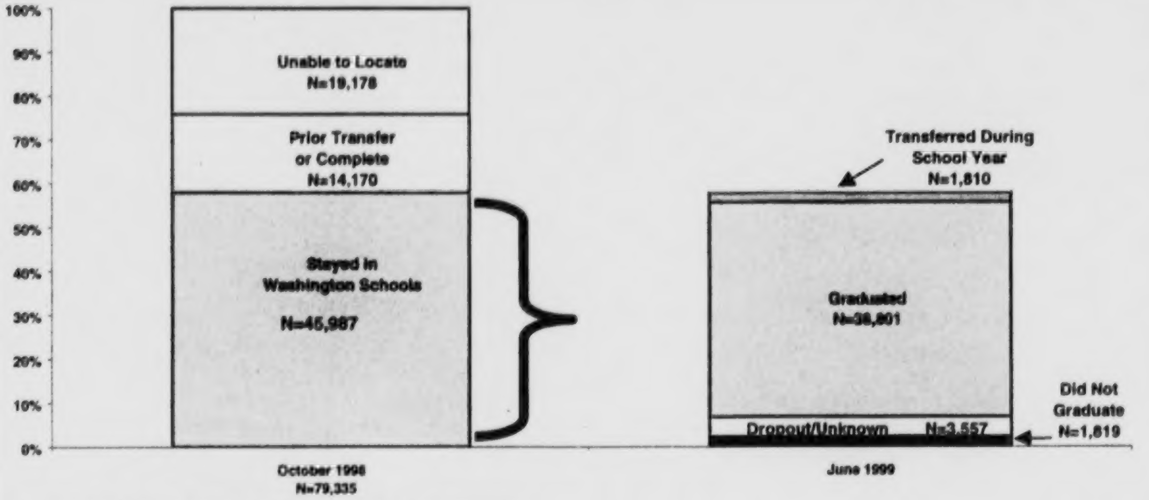
Figure 3
Four-Year Follow-Up of 9th Graders for 1995-96



Source: WSIPP analysis of OSPI enrollment data 1995-99

Figure 4 shows the year-end status of 1995-96 9th graders who remained in Washington schools by grade 12. Of the nearly 46,000 students still enrolled in Washington schools by the fourth follow-up year, 38,801 were reported as graduates. The remaining 7,186 students transferred during the school year, dropped out, or did not complete the present grade level.

Figure 4
Enrollment Status of 9th Grade Students (1995-96) After 12th Grade (1998-99)



Source: WSIPP analysis of OSPI enrollment data 1995-99

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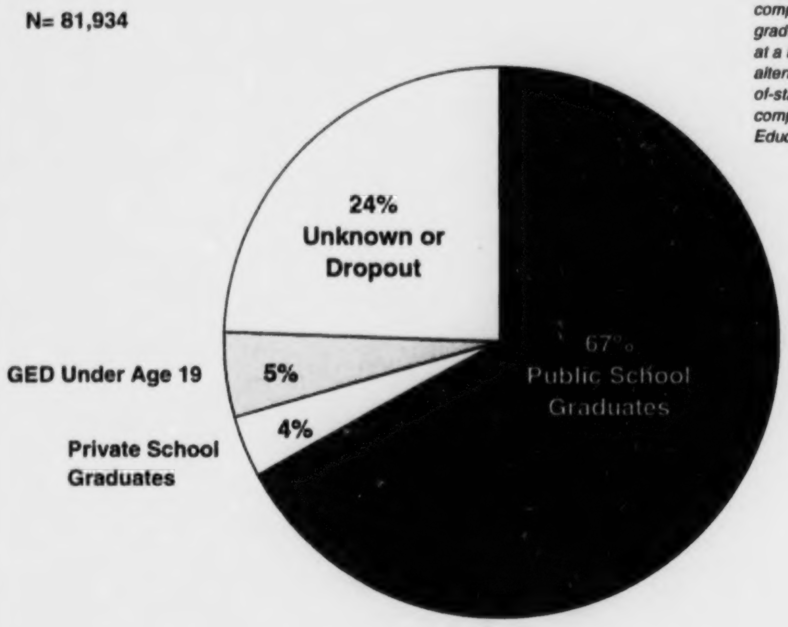
The lack of a uniform student identifier reduces the certainty of this follow-up. The analysis indicates that current reported dropout rates might underestimate the number of students who leave school each year and over time. A uniform student identifier would facilitate record keeping among districts in dealing with student transfers. Such an identifier would also allow policymakers to examine the level of student movement among schools and districts. This change would provide an accurate assessment of the student dropout rate in the state and help identify the factors that increase the risk that a student will leave school. OSPI is planning to implement a voluntary statewide student identifier during the 2001-02 school year.

High School Completion "On Time"

High school completion "on time" is defined as students who receive their high school diplomas or GEDs before their 19th birthdays. Figure 5 shows that an estimated three-quarters of Washington's youth under 19 completed high school on time in 1997-98. This rate of completion has remained constant for the last 35 years.[82]

Figure 5
Three-Quarters of Washington's Students Under Age 19 Completed High School or a GED "On Time" in 1997-98



Note: Those who did not complete high school may graduate or complete a GED at a later time, receive an alternative diploma, move out-of-state to finish school, or complete an Individual Education Plan.

WSIPP 2001
Source: OFM Population Forecast Data Private School Enrollment Data; 1995-99; OSPI Public School Enrollment and Graduation Data 1995-99; , and State Board for Community and Technical Colleges GED Data 1995-99.

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[82] Steve Aos, et al. January 1996. *Trends in At-Risk Behaviors of Youth in Washington.* Olympia, WA: Washington State Institute for Public Policy. 19.

Table 7 lists the number of students who have completed high school since 1995-96.

Table 7

Washington Students Completing High School

	1995-96	1996-97	1997-98	1998-99	1999-00
Public School	49,241	51,741	54,472	52,372	NA
Private School	2,696	2,716	3,102	NA	NA
GED Completers Under Age 19	3,562	3,892	4,105	4,440	4,873

Source: OSPI Graduation and Dropout Statistics and State Board for Community and Technical Colleges GED Statistics

The State Board for Community and Technical Colleges (SBCTC) maintains the data for GEDs. In 1998, those under age 19 receiving a GED made up 5 percent (3,795 students) of the high school completers.[83]

Education After High School

While an estimated 76 percent of youth under age 19 in Washington complete high school on time, young adults also continue to complete their high school credentials. Of the 25- to 29-year-old young adults surveyed in OFM's 1997 State Population Survey, approximately 91 percent had completed high school;[84] of those, 65 percent had some additional education after high school: 9 percent received an associate's degree and 31 percent received a bachelor's degree or higher. It is important to note that the data from the State Population Survey on young adults represents a different population than the enrollment data on high school completion described above because it includes migration of young adults in and out of the state after high school. Table 8 shows the degree level attained for young adults.

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[83] State Board for Community and Technical Colleges' GED statistics 1995-99. The median age for GED completion is 20. Over the last five years, the percentage of students under 19 completing a GED has increased slightly from 34 percent to 39 percent of all GED completers. In addition to the community and technical colleges, public high schools and testing centers in four-year colleges also grant GED certificates and alternative high school diplomas.

[84] It is possible for young adults to be in vocational or some college programs without a high school diploma, so the percentage of high school completers may be slightly inflated.

Table 8

Level of Education Attained for Young Adults Aged 25 to 29 in Washington

Educational Status	Percent
Less than High School	7%
High School Graduate	25%
GED	2%
Vocational	4%
Some College	20%
Associate Degree	9%
Bachelor's Degree	26%
Master's Degree	4%
Other Degree	1%
Unknown	2%

Source: OFM's State Population Survey 1997

Course Enrollment in High School

OSPI does not collect data on student course enrollment (with the exception of vocational education classes for vocational completers).[85] Because data are not available, the state is unable to analyze the change in student enrollment for different courses (e.g., more remediation, higher-level academic classes, or certain electives).

The Institute's final report will survey all high schools to determine course enrollment in math by grade level for all high school students. This information can serve as a baseline to determine if there are changes in the levels of math enrollment in future years due to the new higher math standards.

College-Level Learning for High School Students

Many high school students take courses to earn high school and college credit simultaneously. As shown in Figure 6, approximately 25,000 Washington State public school students in grades 11 and 12 were enrolled in college-level learning during the 1998-99 school year, representing 18 percent of the total 11th and 12th grade public school enrollment.

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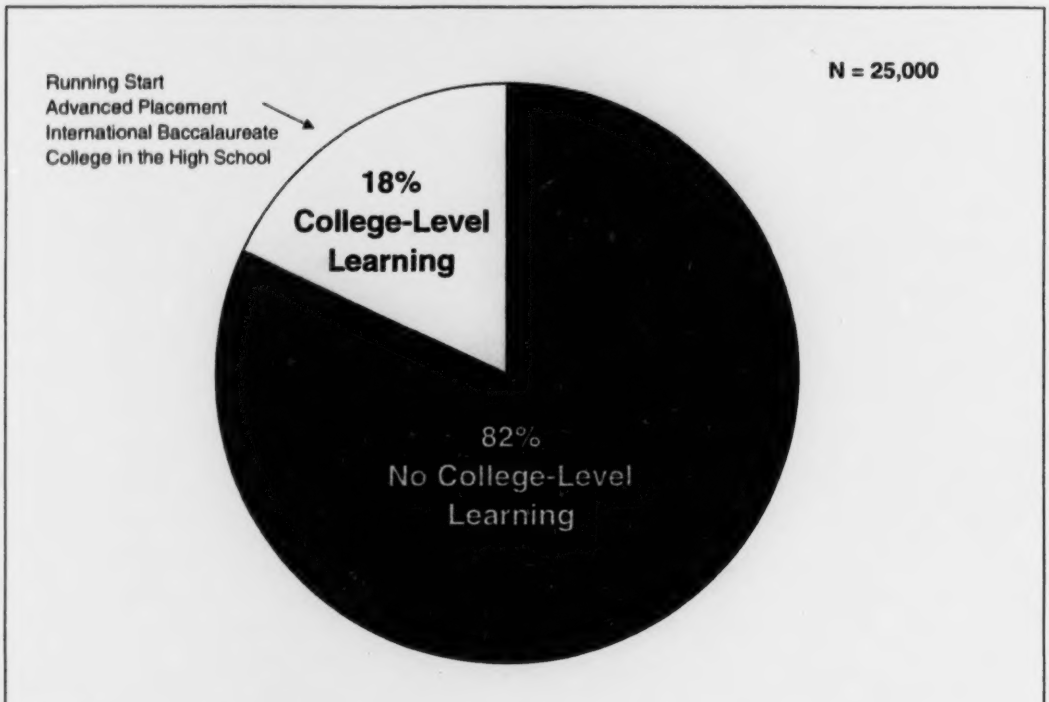
[85] OSPI discontinued its publication, *Washington High School Course Enrollment,* following the 1993-94 school year. This annual report provided the percentage of students enrolled in each high school course by grade. However, because schools do not use uniform course titles, there are difficulties with cataloguing. Some self-reported data on courses taken is available from tests such as the SAT and CTBS. It is likely that the SBE will consider using uniform course titles on state standardized transcripts.

Figure 6
18 Percent of 11th and 12th Grade Students Participated in College-Level Learning in 1998-99



WSIPP 2001
Source: The College Board AP Program, International Baccalaureate Statistical Summary, State Board of Community and Technical College Running Start Statistics, and College in the High School Survey

Four college-level learning programs enable students to earn college credit during high school. Three take place on high school campuses: Advanced Placement (AP), International Baccalaureate (IB), and College in the High School. The fourth program, Running Start, allows high school students to take classes at two-year community colleges and certain four-year public institutions.[86] Running Start is the state's fastest growing college-level learning program and has the largest high school student enrollment of all college-level learning programs.

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[86] Some Running Start courses are held on high school campuses.

Table 9

Participation in College-Level Learning Courses

	Advanced Placement (AP) 1998-1999[87]	International Baccalaureate (IB)[88] 1998-1999	Running Start 1998-99[89]
Students Participating	10,120 (public school students: 8,715)	528 (private school students did not participate)	12,355
Minority Students[90]	20%	Information not collected by IB	15%
Exams Taken in Washington	14,685	1,231	NA
State Average Exam Pass Rates	67%	84%	NA
National Average Exam Pass Rates	64%	81%	NA

No systematic information is collected on students enrolled in College in the High School programs, although a February 2000 survey by the Association of Washington School Principals estimates an enrollment of 3,500 students.

The Institute's final report, to be published in September 2001, will provide information on students enrolled in college-level learning courses by race and ethnicity in each high school, as well as the number of college-level courses offered.

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[87] The College Board. 1995 and 1999. *1999 Advanced Placement Programs in Washington and National Summary Reports.* New York. These numbers represent only those students who took the AP exams; other students may have taken the courses and not taken the exams.

[88] International Baccalaureate Organization. 1999. *North American Statistical Summary May 1999 Session.* New York, NY.

[89] State Board for Community and Technical Colleges. 1999. *Running Start, 1998-99 Annual Progress Report.* Olympia, WA.

[90] Of the 20 percent minority AP candidates (as reported), 60 percent were Asian Americans.

Educational Proficiency

High School Test Performance

Test performance is the most common method of measuring educational proficiency. High school performance is reflected in a single snap of student performance and curricular material. Currently, it is not possible to measure the gains in individual student performance through a statewide test that measures the same students on the same test as they progress through high school (or elementary and middle school).

In Washington State, two major tests are administered to at least 80 percent of high school students: the Washington Assessment of Student Learning (WASL) in grade 10[91] and the Iowa Test of Educational Development (ITED) in grade 11.[92] The WASL is a criterion-based test that measures what individual students learn, based on Washington's standards. Results cannot be compared with other states' students. The ITED is a norm-referenced test that compares students' performance with their peers nationally.

Table 10
Testing in Washington State, 1999-2000

	WASL 10th Grade[93]	ITED 11th Grade[94]
Percent of Students Taking Test in 2000	91% Reading 90% Math 86% Writing 90% Listening	83% Reading 94% Quantitative 83% Expression
1999-2000 State Performance	Percent who met standard (Level 3 and 4):[95] 60% Reading 35% Math 32% Writing 78% Listening	Mean National Percentile Rank (NPR): 54 in Reading 60 in Quantitative 55 in Expression

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[91] The 10th grade WASL was optional in 1998-99.

[92] Prior to 1999, 11th grade students took the Curriculum Framework Assessment System (CFAS). Beginning in 2001, the ITED will be given in the 9th rather than the 11th grade.

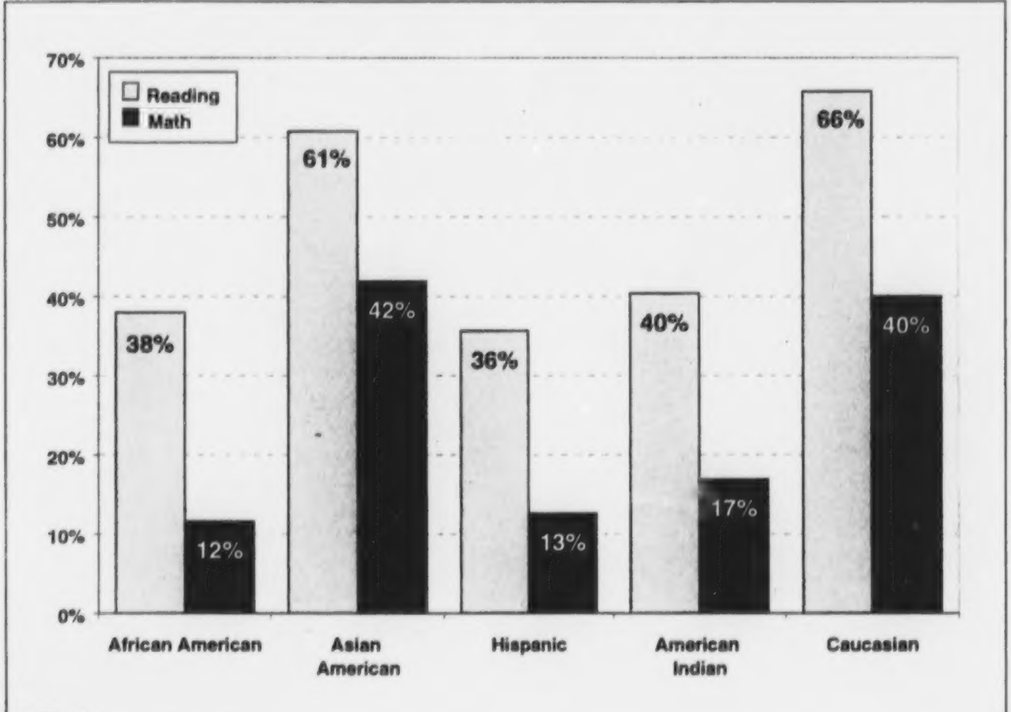
[93] http://www.k12.wa.us/edprofile/stateReport.asp?sReport=stateWASL1999-2000

[94] http://www.k12.wa.us/edprofile/stateReport.asp?sReport=stateITBS1999-2000

[95] Students are graded in four levels; to pass the WASL, students must reach level 3 or 4.

The 10th grade WASL scores for reading and math in 1999-2000 are broken down by ethnicity in Figure 7. African American, Hispanic, and Native American students were less likely to meet the WASL 10th grade standards than Asian American and Caucasian students.

Figure 7
Washington State High School Test Scores, 1999-2000
10th Grade WASL Standard Met by Ethnicity



WSIPP 2001
Source: OSPI at www.k12.wa.us/edprofile

Students who want to attend college take the Scholastic Achievement Test (SAT) in 11th and 12th grades.[96] Over the last five years (1995-99):

- 42 percent of Washington high school students took the SAT.
- Washington students have had higher average SAT verbal and math scores than the national average.
- Washington students' average SAT scores have increased in both verbal and math.

See Figures 8 and 9 for the average Washington State and national SAT scores.

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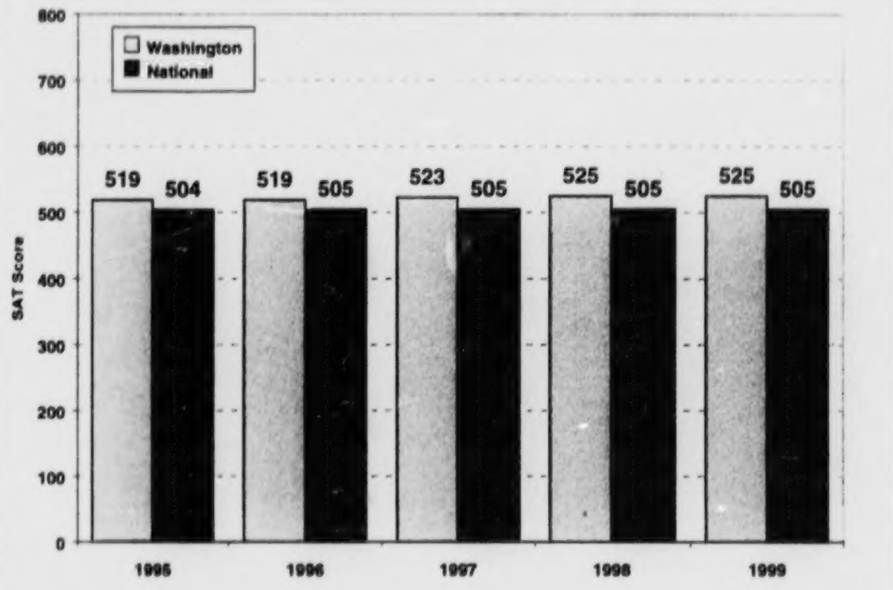
[96] The Scholastic Assessment Test (SAT) in grade 12 is only taken by college-bound students (about 44 percent of Washington's students took it in 1999); comparisons with national averages can be made, but it is important to recognize that the percentage of students taking the test varies by state (less than 10 percent in some states). The National Assessment of Educational Progress is a better national comparison; however, it is no longer taken by representative samples of Washington students.

Figure 8

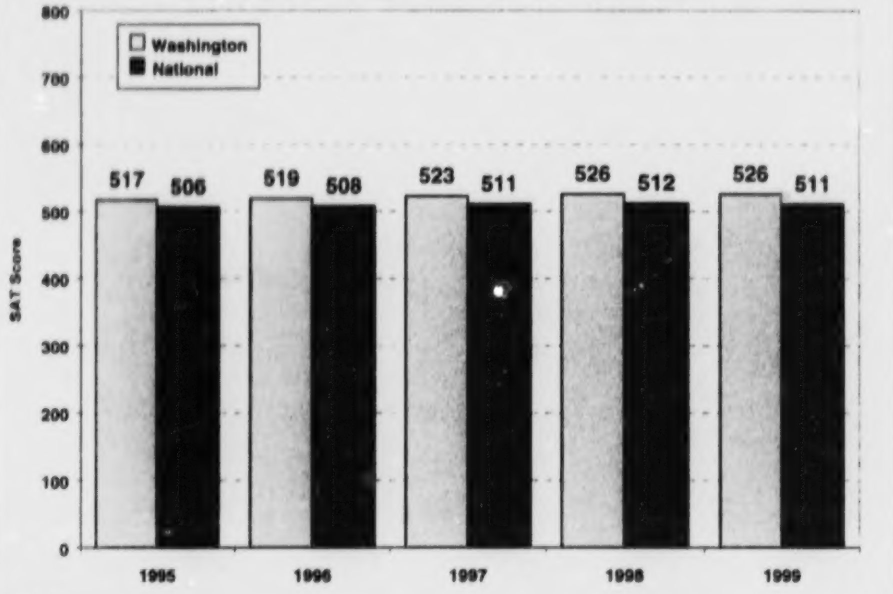
Washington's SAT Verbal Scores Have Increased From 1995 to 1999 and Remained Above the National Average



WSIPP 2001
Source: OSPI Assessment and Research Office

Figure 9

Washington's SAT Math Scores Have Increased From 1995 to 1999 and Remained Above the National Average



WSIPP 2001
Source: OSPI Assessment and Research Office

Performance of Former Running Start Students Who Enter College After High School

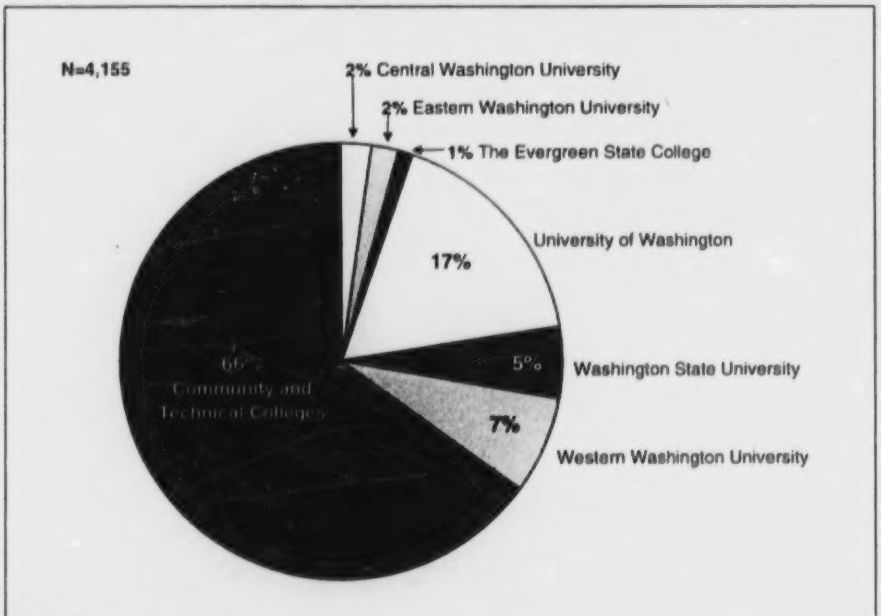
Public colleges and universities provide data[97] comparing first-year college students with Running Start credit to those first-year college students with no Running Start credit for the entering classes of 1995 through 1999 using the following factors. The students graduated in the previous year from a Washington public high school. The factors include:

- Gender
- Race/ethnicity
- Need-based financial aid
- High school GPA
- First-year college cumulative GPA
- Dropout rate
- Graduation efficiency index
- Credits accepted by college

Appendix F provides detailed data from each institution. Some comparisons could not be made due to incomplete data or data calculated in different ways by the various institutions. Information is provided on: (1) college enrollment of former Running Start students, (2) credits earned from college-level learning programs, and (3) high school and first-year college GPA for former Running Start students.

College Enrollment of Former Running Start Students. In the fall of 1999, two-thirds of former Running Start students subsequently enrolled in a community or technical college in their first year after high school.

Figure 10
Enrollment of Former Running Start Students in Washington's Public Universities and Colleges in Their First Year After High School, Fall 1999



WSIPP 2001
Sources: Four-year public colleges and universities and the State Board for Community and Technical Colleges

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[97] Not all four-year institutions were able to provide complete information.

Over the last five years, the percentage of first-year college students who received Running Start credit upon college entrance has increased in each college and university. Students attending the University of Washington and The Evergreen State College who received Running Start credit while in high school represented more than one-quarter of the total entering class in the fall of 1999.

Table 11

Former Running Start Students Enrolled in College After High School Compared With Total First-Year College Enrollment, Fall 1999

	Students with Running Start Credit Enrolled in Public Universities and Colleges in Their First Year After High School	
	Number of Students	Percent of Total First-Year College Enrollment
Central Washington University	90	10%
Eastern Washington University	85	7%
The Evergreen State College	49	28%
University of Washington	709	27%
Washington State University	220	10%
Western Washington University	306	14%
Community and Technical Colleges	2,696	14%

Sources: Four-year public colleges and universities listed above and the State Board for Community and Technical Colleges.

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Credits Earned From College-Level Learning. The college-level learning credits students earned in high school differed among programs. In 1999, first-year college students received more college credit from Running Start, while in high school, than from Advanced Placement, International Baccalaureate, or College in the High School courses.

Table 12

Average College-Level Credit Earned in High School by Students Entering Public Universities and Colleges, Fall 1999

	Average Credit From Running Start	Average Credit From Other Sources (AP, IB, College in the High School)[98]
Central Washington University	NA	NA
Eastern Washington University	26	NA
The Evergreen State College	28	21
University of Washington	32	10
Washington State University	51	20
Western Washington University	NA	NA
Community and Technical Colleges	35	28

Sources: Four-year public colleges and universities listed above and the State Board for Community and Technical Colleges.

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[98] Tech prep credit could also be awarded by community and technical colleges.

High School and First-Year College GPA. When data were available, former Running Start students had high school GPAs above 3.0 and first-year college GPAs above 2.7 in 1999.

Table 13

High School and First-Year College Cumulative GPAs of Former Running Start Students Attending College in Their First Year After High School, 1999

	Former Running Start Students	
	High School GPA	First-Year College GPA
Central Washington University	3.28	NA
Eastern Washington University	3.56	3.13
The Evergreen State College	NA	NA
University of Washington	3.67	3.01
Washington State University	NA	2.91
Western Washington University	NA	NA
Community and Technical Colleges	NA	2.72

Sources: Four-year public colleges and universities listed above and the State Board for Community and Technical Colleges.

Remediation in College

The number of first-year college students enrolled in remedial classes was a topic of legislative interest during the 1990s.[99]

In 1996, the Legislature requested that the Higher Education Coordinating Board (HECB) examine the issue of remediation.[100] Subsequently, the HECB decided to include intermediate algebra (Algebra II) as a remedial course. This resulted in a larger remedial mathematics enrollment because high school students who had not taken intermediate algebra in high school consequently did not pass the math placement test.

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[99] Higher Education Coordinating Board. June 1996. *Definition of Remediation Education.* Olympia, WA. This publication reports that the proportion of freshmen enrolled in remedial courses varied considerably at the four-year institutions. Reasons for this variation include different policies regarding the percentage of freshmen admitted through alternative admission standards, different cutoff scores for placement in remedial courses, mandatory or non-mandatory policies on taking remedial courses, and different methods for demonstrating proficiency.

[100] HB 1336.

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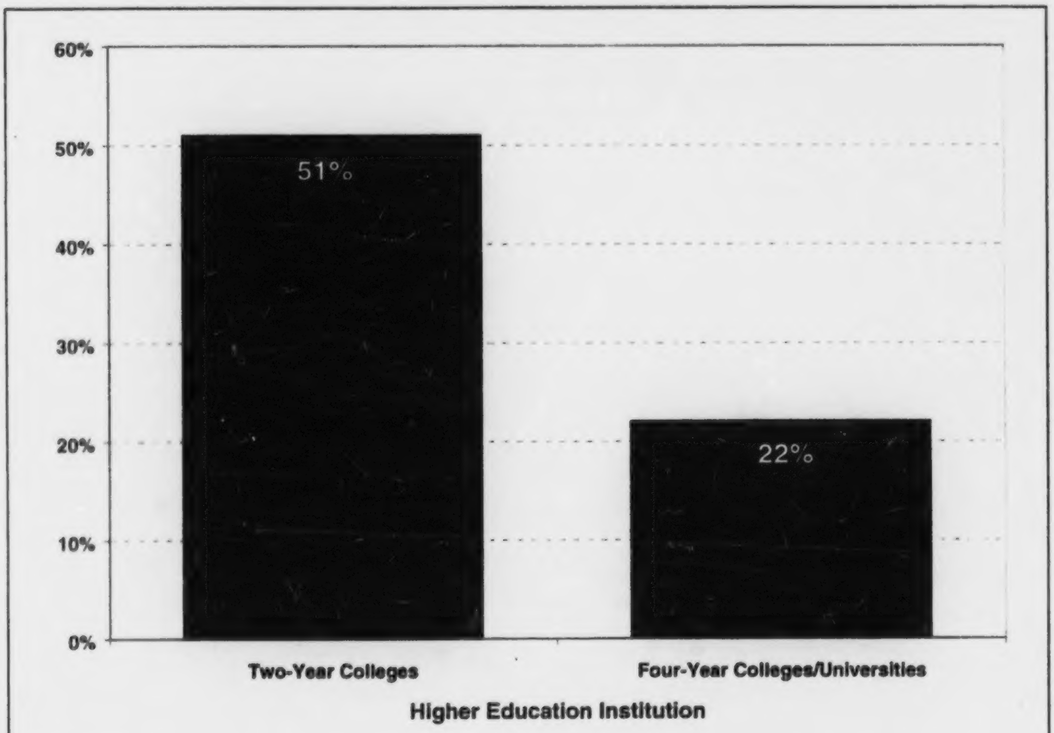
Using data from the 1998 High School *Graduate Follow-Up Study*, Figure 11 shows that 51 percent of college students took one or more remedial courses at a community and technical college, while 22 percent took one or more remedial courses at one of Washington's major four-year universities.[101] Mathematics was the most common area of remediation.

Figure 11
Remedial Course Enrollment for 1998 High School Graduates in Public Colleges and Universities



WSIPP 2001
Source: Jerry Litzenberger, *Remedial Education Report of 1997 Washington High School Graduates: A Report on Senate Bill 1336 by GFS*, 1998.

Community and technical colleges offer more remedial courses as a part of their open enrollment admission policy than four-year colleges and universities. Thus, a larger percentage of students are enrolled in remedial courses at community colleges.

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[101] Remediation information is from four universities: University of Washington, Washington State University, Eastern Washington University, and Central Washington University as reported by Dave Pavelchek with Washington State University's Social and Economic Sciences Research Center in a December 18, 2000, e-mail to the Institute.

Four-year institutions collect information on students who pass the state math placement test. Generally, students cannot enroll in math at a level above Intermediate Algebra (Algebra II) without passing the placement test.[102] There are no statewide tests for English placement.[103] The most recent percent of students who passed the math placement test are found in Table 14. Students in four-year universities who are referred to community college for remedial math are not counted as remediation students at their university.

Table 14
Freshmen Passing the Math Placement Test, 2000[104]

	Percentage
Central Washington University	44%
Eastern Washington University	32%
University of Washington	66%
Washington State University	55%
Western Washington University	63%

Additional Student Performance Outcomes

This report provides the most readily available data on how much education students attain and how well students learn. Appendix E describes the data sources used. Appendix G provides several additional outcome indicators on student-reported data which the Institute received from OSPI and the Workforce Training and Education Coordinating Board.

The *Graduate Follow-Up Study*[105] provided another source of data on high school students in the early 1990s, at legislative request. This study follows high school graduates by matching high school graduate data with college and employment records. The study has been in place since 1992, and the number of schools participating has steadily increased. However, there are major limitations to the study—almost half the study's students have no Social Security numbers or could not be located, which means their records could not be matched to college and employment data bases. Consequently, it is difficult to obtain an accurate picture of what happens to high school graduates.

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[102] Each university has its own cutoff score and policies on how to address students who do not do well on the statewide math placement test.

[103] Placement tests for foreign language were not a focus of this study.

[104] Communication with Jerry Gilmore, University of Washington, November 16, 2000. The students may not have enrolled in the college that records their scores. The Evergreen State College does not collect this information.

[105] The studies were originally conducted by Jerry Litzenberger and Renny Greenmun, but OSPI is now managing the study.

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Summary of High School Student Performance

How much education do Washington students attain?

- The Institute matched the 9th grade class of 1995-96 for the subsequent four years and found that 24 percent of the class had dropped out or had an unknown status by the 12th grade.

- An estimated 76 percent of youth under age 19 in Washington complete high school on time. This percentage has remained constant for the past 35 years.

- Young adults continue to finish high school after age 18. OFM's State Population Survey (1997) estimates that 91 percent of young adults aged 25 to 29 complete high school.

- Sixty-five percent of young adults aged 25 to 29 in Washington had some additional education after high school: 9 percent received an associate's degree and 31 percent received a bachelor's degree or higher.

- Approximately 18 percent of junior and senior high school students were taking college-level learning classes in 1998.

How well do Washington students learn?

- The following percentages of 10th graders passed the WASL in 1999-2000: 60 percent in reading, 35 percent in math, 32 percent in writing, and 78 percent in listening.

- Minority students of African American, Hispanic, and Native American backgrounds in 1999-2000 were less likely to pass the 10th grade WASL than Caucasian or Asian American students.

- Over the last five years (1995-99), Washington students have had higher average SAT verbal and math scores than the national average. During the same period, their average SAT scores have also increased in both verbal and math.

- First-year college students in 1999 received more college credit from Running Start while in high school than from Advanced Placement, International Baccalaureate, or College in the High School courses.

- In 1999, former Running Start students had high school GPAs that were above 3.0 and first-year college GPAs above 2.7.

- According to the 1998 High School *Graduate Follow-Up Study*, 51 percent of college students enrolled in Washington's two-year community and technical colleges and 22 percent in four-year public universities (excluding Western and Evergreen) were enrolled in at least one remedial course. Mathematics was the most common area of remediation.

- The percentage of college students who passed the math placement tests in 2000 at four-year public universities ranged from 32 percent to 66 percent.

What are the barriers to learning more about high school student performance?

- Reported dropout rates lack accuracy because there has been no uniform student identifier from year to year to match students who may have transferred to another school or dropped out and re-entered school. OSPI expects to have a voluntary statewide uniform student identifier to test during the 2001-02 school year.

- Currently, it is not possible to measure individual gains in student performance through a statewide test that measures the same students on the same test as they progress through school.

- With the exception of vocational courses, the state does not collect records on the kinds of courses high school students take to assess the changes in levels of coursework (e.g., remediation, advance placement).

- The *Graduate Follow-Up Study* cannot provide a complete and accurate picture of what happens to high school graduates because there are limitations on matching graduates to college and employment data bases.

- Four-year public higher education institutions use different methods to provide data. Some institutions' data cannot be compared over time, such as cumulative GPA.

- The quality of policy-relevant outcome data on high school students is mixed and does not currently provide state policymakers with a solid baseline to determine what impacts education reform will have on Washington's high school students.

What additional information will be in the Institute's final report?

- The Institute will document a baseline on course enrollment in math, by grade level, in order to enable policymakers to observe the impact the state education reform requirements for a Certificate of Mastery have over time on student enrollment.

- Information will be collected from each high school on students enrolled in college-level learning courses by race and ethnicity, as well as the number of college-level learning courses offered.

V. HIGH SCHOOL REFORM IN WASHINGTON: *WHAT EDUCATIONAL OPPORTUNITIES AND PROGRAMS ARE AVAILABLE FOR STUDENTS?*

Scope of Work for Final Report

The purpose of the Institute's final report is to create a baseline to document what high school educational opportunities and programs are currently available for students and whether they are changing as a result of education reform. This baseline is important to establish because, as discussed in Section IV, there is currently no statewide systematic information available regarding available high school educational opportunities and programs.

The Institute is conducting eight case studies and a statewide survey of all high school principals to examine the following five research questions:

(1) What strategies are used to improve student learning?

(2) What curriculum, instructional, and assessment changes are occurring in response to education reform?

(3) What educational pathways and learning opportunities (e.g., culminating projects, career pathways, portfolios, plans, college credit, and vocational programs) are available for students?

(4) How are families and community members involved in supporting student learning?

(5) What are the student demographics and enrollment patterns in certain high school programs?

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Methodology

A policy advisory committee and a technical advisory committee are guiding the Institute's work on the case studies, surveys, and data collection efforts.[106]

Case Studies. The Institute has selected eight high schools to participate as case study schools (see Table 15). Schools were selected based on the following criteria:

- **Size of School:** Two small schools (300 to 900 students), three medium schools (900 to 1,500 students), and three large schools (over 1,500 students);
- **Geography:** A balance of the west, central, and east sides of the state, as well as rural, suburban, and urban locations;
- **Demographics:** Schools with at least 20 percent of the student population eligible for free and reduced lunch and over 10 percent minority enrollment;
- **Grade Levels:** Schools with a 9th through 12th grade configuration, to maintain consistency in the types of issues discussed; and
- **Other Considerations:** Several schools identified as pursuing standards-based reform efforts.

Table 15

Case Study High Schools

High School (District)	Number of Students	School Size	Location	Percent Free and Reduced Lunch	Percent Minority
Nathan Hale (Seattle)	1,074	Medium	West	30%	44%
Moses Lake	1,745	Large	East	26%	26%
Fort Vancouver (Vancouver)	1,682	Large	West	40%	23%
Pasco	2,261	Large	Central	56%	45%
Sunnyside	1,304	Medium	Central	35%	69%
Sequim	901	Medium	West	18%	12%
Nooksack Valley	503	Small	West	30%	28%
Lake Roosevelt (Grand Coulee Dam)	341	Small	East	33%	47%

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[106] See page ii for a list of policy and technical advisory committee members.

Institute staff are conducting two-day visits to each high school to interview the principal, teachers, students, parents, and community members. In addition, the Institute will review school documents, such as the building improvement and staff development plans.

High School Survey. A survey will be sent to all public high schools that enroll more than 20 students in the 10th grade (approximately 350 schools). The survey will cover many of the same questions and topics as the case studies. In addition, a portion of the survey will obtain information on student enrollment in college credit, distance learning, and math classes.

Educational Programs. Using national studies, state reports, field data, and other resources, the Institute will provide a brief review of the following educational programs:

- College-Level Learning (Running Start, Advanced Placement, International Baccalaureate); and
- Efforts to Link School and Career (Tech Prep, School-to-Work, Vocational Education, Career Academies, Integration of Academic and Vocational Coursework).

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APPENDIX A: NATIONAL TRENDS IN HIGH SCHOOL REFORM

What Are the Characteristics of American High Schools?

Parents, educators, prospective employers, colleges, and the general public all have expectations about the educational needs of high school students and the purpose of secondary school education. Over time, these expectations have helped shape the curriculum and organization of American high schools.[1]

A Curriculum With "Something for Everyone." High schools are expected to offer a wide range of courses tailored to the diverse abilities and interests of students. It has generally been assumed that not all students need or are capable of rigorous academic coursework.[2] Therefore, high schools have offered challenging academic subjects and honors courses for those who are college-bound, vocational training for those who are headed immediately to the workplace, and an array of other courses of varying levels of difficulty for those who have not yet made decisions about their post-high school plans. By 1993, 86 percent of high schools surveyed nationwide reported that they structured their curriculum around classes of varying levels of difficulty.[3] High school students tend to be separated into college preparatory, vocational, or general educational "tracks" based on the type and level of difficulty of courses they take.

Large, Multi-Purpose Institution. Due to the economies of scale needed to offer a curriculum catering to the abilities and interests of all students, many high schools have grown quite large. Nationally, high schools average 1,200 or more students.[4] In Washington, the average enrollment in a standard high school is 912 students.[5] High schools tend to be organized around traditional academic departments, with teachers specializing in a single subject. This means students might have a different teacher for each period of the day, and teachers may interact with upwards of 150 different students each quarter or semester.

Since they are the primary organization in the lives of teens, high schools serve multiple functions by providing social interaction through clubs, sports, and other extracurricular activities as well as access to social services and health care.[6] The high school is often a focal point in a community, serving as a community and social center.

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[1] David Angus and Jeffrey Mirel, *The Failed Promise of the American High School*, Teacher's College Press, New York, 1999, p. 2.

[2] David Marsh and Judy Codding, *The New American High School*, Corwin Press, Thousand Oaks, CA, 1999, p. xiii.

[3] National Center for Education Statistics, *Curricular Differentiation in Public High Schools* (NCES 95-360), U.S. Department of Education, Washington, D.C., December 1994, p. 5. Eighty-six percent of 10th graders in surveyed schools were in a tracked math class and 72 percent were in a tracked English class.

[4] Joseph Murphy, et al., *The Productive High School: Empirical Evidence*, SUNY Press, New York, forthcoming, p. 297 of draft manuscript.

[5] See additional information in Section III regarding enrollment in Washington public high schools.

[6] Ibid, p. 103.

Why Reform High School?

Many people continue to believe high schools should offer a comprehensive curriculum and serve as a multi-purpose institution. However, by the early 1980s the quality of its product—a high school education—was increasingly called into question.

Lack of Academic Rigor. In 1983, *A Nation at Risk*[7] concluded the curriculum available in high schools was so broad and diffuse that no central purpose could be found in the courses offered or taken by students. Others pointed out that an increasing proportion of the high school curriculum was made up of non-academic courses.[8] More students were enrolling in courses whose academic difficulty had been intentionally watered down.[9]

At the time (early 1980s), 35 states required only one year of math for a diploma. National math and science scores for 17-year-olds had fallen during the previous ten years, while reading scores were essentially flat.[10] Even college-bound students were inadequately prepared: enrollment in remedial math courses at four-year public colleges had increased 72 percent in five years.

Lack of Preparedness for Work. At the same time, other groups expressed concern about high school students who were not likely to complete a four-year college degree, then representing nearly 70 percent of students who graduated from high school.[11] Vocational courses came under fire for being focused too narrowly on single occupations and failing to incorporate sufficient academic content in reading and math.[12] Employers claimed that high school graduates were inadequately prepared not only in basic skills (reading, math, problem-solving, communication) but also workplace competencies (teamwork, technology, using information and resources).[13]

Economic trends made the lack of preparedness for either work or college particularly troubling. The availability of low-skill jobs was declining. The U.S. Department of Labor estimated that more than half of new jobs between 1984 and 2000 would require some education beyond high school.[14] After adjustments for inflation, wages for individuals with only a high school degree continued to decline,[15] and the wage gap between high school graduates and college graduates continued to grow.[16]

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[7] *A Nation at Risk*, http://www.ed.gov/pubs/NatAtRisk/risk.html, 1983.

[8] Angus and Mirel, p. 158.

[9] Murphy, et al., pp. 96-96.

[10] National Center for Education Statistics, *The Condition of Education 1999* (NCES 1999-022), U.S. Department of Education, Washington, D.C., June 1999, p. 34. Based on the National Assessment for Educational Progress (NAEP) tests for math, science, and reading.

[11] William T. Grant Foundation Commission on Youth and America's Future, *The Forgotten Half: Non-College Youth in America* (EDRS 290-822), Washington, D.C., January 1988, p. 36.

[12] Mathematica Policy Research Inc., *Focus for the Future: The Final Report of the National Tech-Prep Evaluation*, U.S. Department of Education, Washington, D.C., 1998, p. 5.

[13] The Secretary's Commission on Achieving Necessary Skills (SCANS), *What Work Requires of Schools: A SCANS Report for America 2000*, U.S. Department of Labor, Washington, D.C., June 1991, p. 4.

[14] National Center for Education Statistics, *Vocational Education in the United States: Toward the Year 2000* (NCES 2000-029), U.S. Department of Education, Washington, D.C., February 2000, p. 24.

Low Quality of General Education. By 1982, 58 percent of high school graduates were enrolled in a "general" course of education, not specializing in either a college preparatory or vocational program while in high school.[17] Researchers found most students in the general track simply take an unconnected array of non-challenging courses with no particular objective.[18] Courses for medium- and low-achieving students tend to be dull, repetitive, and rely on workbooks, drills, and skill kits. Students are not presented with information and concepts in a way that will motivate them or build complex knowledge and skills.[19]

Minority and low income students are disproportionately enrolled in general or vocational classes. High schools with large proportions of low income and minority students tend to offer fewer academic classes and more remedial classes and vocational programs.[20] This raises concerns that the practice of tracking students perpetuates differences in opportunity and achievement for students based on their race and income.

Low Student Engagement in Learning. Surveys of students show a large proportion (perhaps 40 percent) are not actively interested in or committed to learning in high school.[21] They find their classes boring, are assigned little homework, and do not feel motivated toward high performance by the goal of getting a diploma.[22] Studies suggest that in order for students to be motivated, they need to believe that what they learn in school is relevant to the world outside the classroom and see a connection between learning, high achievement, and their own personal goals.[23]

A variety of causes for low student engagement have been suggested. As a reward for orderly behavior, high school teachers may place low demands on students.[24] Parents are less likely to be actively involved in high schools.[25] The instructional tasks students are asked to perform may be rote and repetitive, rather than focused on developing skills they will use in the future, such as problem-solving, analysis, and presentation.[26] Finally, some suggest that the large size of many high schools precludes close relationships between teachers and students and creates an impersonal atmosphere where students do not feel connected to either the people or the purpose of school.[27]

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[15] William T. Grant Foundation Commission on Youth and America's Future, p. 29. Men aged 20 to 24 with only a high school degree earned 28 percent less in 1985 than they did in 1973.

[16] Ibid, p. 28. In 1985, college graduates aged 20 to 24 earned a median income 38 percent higher than high school graduates of the same age.

[17] National Center for Educational Statistics, *Vocational Education in the United States: Toward the Year 2000*, p. 51.

[18] Jeannie Oakes, *Educational Matchmaking: Academic and Vocational Tracking in Comprehensive High Schools*, National Center for Research in Vocational Education, Berkeley, CA, 1992, p. 42.

[19] Adam Gamoran, "The Stratification of High School Learning Opportunities," *Sociology of Education*, Vol. 60, July 1987, p. 136; and, Bruce Wilson and Gretchen Rossman, *Mandating Academic Excellence: High School Responses to Curricular Reform*, Teachers College Press, New York, 1993, p. 48.

[20] Jeannie Oakes, "Can Tracking Research Inform Practice?," *Educational Researcher*, Vol. 21, No. 4, May 1992, p. 13.

[21] Laurence Steinberg, *Beyond the Classroom: Why School Reform Has Failed and What Parents Need to Do,* Simon & Schuster, New York, 1996, p. 67.

[22] Ibid, pp. 68 and 75.

[23] Ibid, p. 72.

[24] Murphy, et al., p. 151.

[25] National Center for Education Statistics, *Condition of Education 2000* (NCES 2000-062), U.S. Department of Education, Washington, D.C., June 2000, p. 97.

What Reforms of High School Have Been Tried in the Last Twenty Years?

Since the 1980s, school districts, states, and the federal government have engaged in a wide range of activities aimed at reforming high schools.

Increased Graduation Requirements. In the 1980s, 45 states either increased or initiated statewide graduation requirements. Forty-two states expanded the number of courses required in mathematics, science, or both. At least 18 added language arts requirements, and about half the states increased requirements in social studies.[28] The Washington legislature adopted its first high school graduation requirements in 1984.

Research Results:

(1) **High schools responded to the new state requirements by offering more academic courses, and students have been enrolling in them.**

- *More credits; more academic credits.* Between 1982 and 1998, the average number of total credits earned by high school graduates increased by 3 to a total of 25 (more than 13 percent). Furthermore, the increase was due to students taking more academic courses.[29]
- *Higher levels of math and science.* The proportion of students who take mid-level and advanced math and science courses has also increased steadily since 1982.[30]
- *More rigorous curriculum.* Between 1982 and 1994, the percentage of high school graduates taking the core academic curriculum recommended by *A Nation at Risk* rose from 14 percent to 51 percent.[31]
- *More rigorous curriculum means better college preparation.* A recent study by the U.S. Department of Education found that the most significant predictor of

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[26] Fred Newmann & Associates, *Authentic Achievement: Restructuring Schools for Intellectual Quality*, Jossey-Bass Publishers, San Francisco, 1996, p. 27.

[27] Murphy, et al., p. 298.

[28] Center for Policy Research in Education, "Graduating from High School: New Standards in the States," *CPRE Policy Briefs* (RB-02-04/89), 1989, p. 1.

[29] National Center for Educational Statistics, *Condition of Education 2000*, p. 44.

[30] Ibid, p. 157.

[31] National Center for Educational Statistics, *Condition of Education 1999*, p. 9. *A Nation at Risk* recommended strengthening minimum high school graduation requirements to reflect the "New Basics": four years of English; three years of math; three years of science; three years of social studies; and one-half year of computer science. They also recommended college-bound students take two years of foreign language.

college completion was the rigor of academic courses students took in high school.[32]

- *Increase in test scores.* Student scores on national math and science tests show a steady increase since 1982 (particularly in math), although reading scores have not changed.[33] During the 1980s, the gap in scores between white and minority students decreased somewhat, but that trend did not continue through the 1990s.[34]

(2) **Low- and middle-achieving students might not have experienced the positive effects of increased graduation requirements to the same degree as high-achieving students.**

- *Uncertain impact on dropouts.* In 1992, nationwide dropout rates between 10th and 12th grade were half what they had been in 1982.[35] However, a recent study found that increasing the number of course credits required for graduation may lead to higher dropout rates.[36]
- *Limited change in general education track.* By 1994, the percentage of students enrolled in the general education track had dropped to 42 percent (from 58 percent in 1982). However, only 30 percent of students enrolled in general education in 1994 were taking the academic curriculum advocated by *A Nation at Risk.*[37] Other studies found that increased graduation requirements had little impact on tracking of students.[38] There continue to be different learning expectations for students of different abilities.

(3) **More students are entering college than ever before, but the proportion of those who complete a four-year degree has not risen at the same pace.**

- *More than two-thirds of high school graduates start college.* In 1997, 44 percent of students entered a four-year college after graduation from high school, and 23 percent entered a two-year college. In the early 1980s only about half of high school students went to college right after graduation.[39]
- *By age 29, one-third of adults have a four-year degree.* Compared with 1982 when 25 percent of adults aged 25 to 29 had a four-year degree, the rate of college completion has grown, but not at the same pace as entrance into college. An additional 9 percent of 25- to 29-year-olds have obtained a two-year degree.[40]

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[32] Office of Educational Research and Improvement, *Answers in the Toolbox: Academic Intensity, Attendance Patterns, and Bachelor's Degree Attainment*, http://www.ed.gov/pubs/Toolbox, June 1999.

[33] National Center for Educational Statistics, *Condition of Education 1999*, pp. 3-4.

[34] Ibid, p. 5.

[35] National Center for Education Statistics, *A Comparison of High School Dropout Rates in 1982 and 1992* (NCES 96-893), U.S. Department of Education, Washington, D.C., October 1996.

[36] *Education Week*, March 29, 2000. Researchers from Cornell University and the University of Michigan analyzed data on high school dropouts compared to changes in Carnegie units required for graduation.

[37] National Center for Educational Statistics, *Vocational Education in the United States: Toward the Year 2000*, pp. 64-65.

[38] Wilson and Rossman, p. 99.

[39] Samuel Halperin (ed.), *The Forgotten Half Revisited*, American Youth Policy Forum, Washington, D.C., 1998, p. 94.

[40] National Center for Educational Statistics, *Condition of Education 2000*, p. 157.

Efforts to Link School and Career. Federal initiatives in the early 1990s attempted to improve the preparation of students for careers that require post-secondary training and create programs and strategies to help students transition successfully to work or further education after high school.[41]

- The *Tech-Prep Education Act (1990)* provides funds to develop training programs that would entail two years of high school coursework, followed in sequence by two years of post-secondary education. School, community college, and business partners would create rigorous programs of study leading to well-paying technical jobs.[42]
- The *School-to-Work Opportunities Act (1994)* provided grants to states to support local partnerships of school districts, businesses, and post-secondary institutions. Partners would develop courses and activities in school to help students explore and develop their career interests as well as provide students with opportunities to learn and apply workplace skills through internships, mentoring, and other work-based learning.[43]
- *Integration of academic and vocational education* is a goal of both School-to-Work and Tech Prep efforts, as well as a strategy to improve traditional vocational education programs.[44] One strategy is to include more practical and work-related activities in academic courses (i.e., "applied learning"). Another is to increase the level of reading, writing, math, and science taught through vocational courses.[45]

As originally conceived, these initiatives were intended to address students who might not complete a four-year college degree. However, in order to avoid being associated solely with vocational education (and thus have limited appeal to students and parents), they have been expanded to expose all students to early career and educational planning.

Research Results:

(1) **Expanding Tech Prep and School-to-Work to appeal to all students has made it difficult to determine whether the strategies are effective.**

- *Few students and few comprehensive Tech Prep programs.* Fewer than 10 percent of high school students were in Tech Prep programs in 1995.[46] However, grant recipients find it difficult to identify participating students. Only 10 percent of schools created a special career-oriented vocational and academic curriculum that would lead directly to a post-secondary program.[47]

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[41] National Center for Research in Vocational Education, *Research on School-to-Work Transition Programs in the United States*, NCRVE, Berkeley, CA, March 1994, pp. 5-6.

[42] Mathematica Policy Research Inc., *The Final Report of the National Tech-Prep Evaluation*, p. 7.

[43] Mathematica Policy Research Inc., *Building Blocks for a Future School-to-Work System: Early National Implementation Results. Executive Summary*, U.S. Department of Education, Washington, D.C., July 1998, pp. 2-3.

[44] Mathematica Policy Research Inc., *The Final Report of the National Tech-Prep Evaluation*, p. 46. The 1990 amendments to the Carl Perkins Act that created Tech Prep also required any school district receiving federal vocational funding to integrate academic and vocational education.

[45] Mathematica Policy Research Inc., *Key High School Reform Strategies: An Overview of Research Findings*, Office of Vocational and Adult Education, Washington, D.C., March 1999, pp. 9-11.

[46] Mathematica Policy Research Inc., *The Final Report of the National Tech-Prep Evaluation*, p. 104.

- *School-to-Work focused on career exploration.* Most grant recipients expanded activities such as job fairs, career counseling, career interest inventories, and most of their graduating seniors in 1996 had participated in these activities.[48] Far fewer students took courses in high school organized around a career goal or took part in a workplace experience linked to school.[49]

(2) **There is a trend toward increasing the academic rigor of vocational programs, but there is also some question whether vocational education will continue to be a viable alternative for certain students.**

- *More rigorous curriculum and higher achievement.* The proportion of vocational students who also completed a core academic curriculum has increased dramatically: from 5 percent in 1982 to 45 percent by 1998.[50] Students in some high schools that have placed a priority on offering integrated vocational and academic curricula are showing improvement in their math and reading scores.[51] The same is true nationally for vocational students who also take a core academic curriculum.[52]
- *Changing curriculum takes time.* However, vocational students are still more likely to be lower-achieving students and take academic courses of lower difficulty than other students.[53] Less than half of public high schools report offering an integrated vocational-academic curriculum, and there is no indication of how extensive these efforts are.[54]
- *Declining overall enrollment.* By nearly every measure, student enrollment in vocational courses declined between 1982 and 1994. The sharpest decline was in the proportion of students who take a series of courses in the same career field.[55] Most attribute this to increased high school graduation requirements and

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[47] Mathematica Policy Research Inc., *The Final Report of the National Tech-Prep Evaluation*, p. 77. The rest focused on improving the coordination of vocational curriculum between high school and community college, expanding applied learning courses, and enhancing vocational courses.

[48] Mathematica Policy Research Inc., *Building Blocks for a Future School-to-Work System*, pp. 43 and 83.

[49] Ibid, p. 62. Twelve percent of students perceived their courses were organized around a career goal; 16 percent had work experience linked to school; only 2 percent participated in all three: career development, career-oriented courses, and work-based learning.

[50] "Mix of Academics, Technical Skills Heralds 'New Day' in Voc Ed," *Education Week*, September 27, 2000; and, National Center for Educational Statistics, *Vocational Education in the US: Toward the Year 2000*, p. 63.

[51] Southern Regional Education Board, *The 1996 High Schools That Work Assessment*, 1996, http://www.sreb.org/Programs/hstw/96assessment. High Schools That Work is a consortia of schools in different states that are attempting to improve the educational preparation of career-bound students.

[52] National Center for Educational Statistics, *Vocational Education in the US: Toward the Year 2000*, p. 79.

[53] Ibid, p. 73.

[54] Ibid, p. 82.

[55] Ibid, pp. 49-51. The average number of vocational credits accumulated dropped from 4.7 to 4.0; the average proportion of total credits from vocational courses dropped from 22 percent to 16 percent. The percent of graduates concentrating on vocational education dropped by 25 percent. The latter is of particular concern because the future earnings of vocational students improve if they enroll in a structured sequence of courses and then find jobs related to their training.

more academic course-taking: students have less time to take vocational courses.[56]

Redesigning High Schools. Reforms of high school have also occurred at the national, school district, individual building, and grassroots level. The Coalition of Essential Schools, New American High Schools, and High Schools That Work are some examples of national organizations encouraging, and sometimes funding, high school redesign efforts.[57] Many of these efforts, in addition to establishing rigorous curriculum and standards, attempt to change the overall environment of the school in order to increase student engagement in learning. Examples of redesigned schools include the following:

- *High Schools That Work.* High Schools That Work is a consortia of nearly 1,000 schools attempting to improve the educational preparation of career-bound students through integration of vocational and academic education and increasing the overall rigor of courses students take.
- *Smaller schools.* Research shows that students in smaller high schools may do better in school than students in larger schools, particularly if they are from disadvantaged backgrounds.[58] Some large high schools are trying to gain the benefits of small size by creating sub-units or "schools-within-schools."
- *Choice schools.* One approach to restructuring is to create a specialized curriculum through alternative school or magnet programs to attract interested students. Charter schools are also a form of school choice.
- *Career Academies.* Career academies combine several high school reforms. They offer students a choice of a school-within-a-school where academic and vocational courses are integrated around a career theme. Expanded opportunities for work-based learning are also provided.[59]
- *Block-scheduling.* Schools have tried to lengthen learning periods and reduce the number of transitions between subjects and classes through a number of different scheduling configurations.

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[56] Ibid, p. 49.

[57] The Coalition of Essential Schools is a network of more than 1,000 schools and 24 regional centers committed to improve student achievement by redesigning the school according to a set of ten Common Principles. New American High Schools is a program sponsored by the U.S. Department of Education to highlight different models of restructuring taking place throughout the country.

[58] Kathleen Cotton, "School Size, School Climate, and Student Performance," *Close-Up #20*, Northwest Regional Educational Laboratory, Portland, OR, 1996. About half the research shows smaller school size linked to improved student achievement (the other half shows no effect). Most research shows a positive effect of small school size on student engagement, attitude, behavior, and participation in school activities. Both types of effects are even greater for disadvantaged students. "Smaller" generally means 300 to 800 students, although there is limited research to support a particular size.

[59] James Kemple and Jason Snipes, *Career Academies: Impacts on Students' Engagement and Performance in High School: Executive Summary*, Manpower Demonstration Research Corporation, Washington, D.C., February 2000, p. 3.

Research Results:

(1) **Because high schools usually try more than one restructuring strategy at a time, it is difficult to determine which strategy is having a positive effect.**

- *High Schools That Work show largely positive results.* Integrating academic and vocational education classes for career-bound students has resulted in these students improving their math and English scores and taking more rigorous courses, but implementation of more rigorous courses has been uneven in many schools.[60]
- *Small size makes reforms easier.* Researchers suggest that simply having a smaller number of students might not create a better learning environment. However, other desirable attributes are easier to achieve with fewer students and fewer teachers: inter-disciplinary and team teaching, close teacher-student relationships, reduced tracking of students according to their ability, and individual attention to students having difficulty.[61] However, a small high school faces difficulty in offering a wide array of courses, particularly for either high- or low-achieving students.[62]
- *Effect of "schools-within-schools" mixed.* Intentionally creating smaller groups of students and teachers seems to have a positive effect on student attitudes, but the effect on student achievement is less clear.[63] The degree to which these efforts have been implemented varies widely. Researchers suggest that sub-units that are very distinct and independent from the larger school are more likely to achieve the benefits usually attributed to small schools.[64]
- *Choice schools.* It is still too early in the implementation of charter schools to assess student achievement over time. However, based on reported waiting lists, there appears to be a high demand for students to enroll in charter schools.[65]

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[60] Southern Regional Education Board, *The 1996 High Schools That Work Assessment*, p. 1.

[61] Valerie Lee and Julia Smith, "Effects of High School Restructuring and Size on Early Gains in Achievement and Engagement," *Sociology of Education*, Vol. 4, No. 68, October 1995, p. 16; and, Kathleen Cotton, "Affective and Social Benefits of Small-Scale Schooling," *ERIC Digest*, EDO-RC-96-5, December 1996, p. 3.

[62] Valerie Lee, et al., "Inside Large and Small High Schools: Curriculum and Social Relations," *Educational Evaluation and Policy Analysis*, Vol. 22, No. 2, Summer 2000, p. 154.

[63] Mary Anne Raywid, "Taking Stock: The Movement to Create Mini-Schools, Schools-Within-Schools, and Separate Small Schools," ERIC Clearinghouse on Urban Education, 1996, http://eric-web.tc.columbia.edu/monographs/uds108/outcome.html, pp. 1-2.

[64] Ibid, p. 6.

[65] RPP International, *The State of Charter Schools: National Study of Charter Schools. Fourth Year Report*, U.S. Department of Education, Washington, D.C., January 2000, p. 7.

- *Schedule changes difficult to assess.* In 1997, 39 percent of public high schools reported implementing some form of block-scheduling,[66] but it has proven nearly impossible to isolate the effect of this popular reform from other restructuring practices.[67] Some studies suggest changing the schedule can reduce discipline problems and increase attendance rates. The effect on student achievement is not clear.[68]

(2) Disadvantaged students benefit the most from restructuring efforts.

- *Career Academies work for at-risk students.* A recent evaluation found that Career Academies substantially reduced dropout rates, increased the number of credits earned, and provided better college preparation for at-risk students. Positive results for other students (those at less risk) were only found at some academies.[69]
- *Impact of other reforms also greater.* Even where research findings show mixed results on improving student achievement, for example from small schools or block-scheduling, the performance of minority and low-income students clearly improves.[70]

High Standards for All Students. In the 1990s, states began setting high standards for what students should know and be able to do as well as developing assessments to measure progress. By 1999, 44 states had adopted standards in English, math, social studies, and science.[71] For high schools, standards-based reformers have advocated a more common core curriculum, at least through 10th grade, capped by demonstration of competency in the standards before graduation.[72] Some also recommend that students complete a project or culminating activity that shows they can use their knowledge and skills outside the classroom.[73]

Research Results:

(1) Standards-based reform is only beginning to reach into high schools, so its effect is still largely unknown.

- *States moving to require mastery of standards for graduation.* As of 2000, eight states require their graduates to master 10th grade standards; 12 additional states report they will require this in the future.[74]

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[66] National Center for Educational Statistics, *Vocational Education in the US: Toward the Year 2000*, p. 84.
[67] Mathematica Policy Research Inc., *Key High School Reform Strategies: An Overview of Research Findings*, p. 67.
[68] Ibid, p. 68.
[69] Kemple and Snipes, pp. 2-3.
[70] Kathleen Cotton, "School Size, School Climate and Student Performance," p. 5; and, Mathematica Policy Research Inc., *Key High School Reform Strategies: An Overview of Research Findings*, p. 68.
[71] *Education Week*, "Quality Counts 2000," Volume XIX, No. 18, January 13, 2000, p. 64.
[72] Marsh and Codding, p. 20.
[73] Marsh and Codding, p. 53.
[74] *Quality Counts 2000*, p. 73.

- *Uncertain impact from projects and portfolios.* Although high schools are experimenting with a wide range of performance assessments, such as senior projects, portfolios, and culminating activities, it is largely unknown whether they are reliable measures of what students know and can do, or how well they predict future performance outside the school.[75]
- *Major implications but unknown impact.* Standards-based reform represents a shift away from previous assumptions that not all students should be expected to take classes of similar academic difficulty. Schools with large proportions of low-achieving students will be particularly challenged to find strategies to engage these students and provide opportunities for them to meet the standards. Increased emphasis on academic standards could cause high schools to focus their curriculum more narrowly and move away from offering a wide variety of courses or courses with different levels of difficulty.

Synopsis: Conclusions Difficult to Draw From Multiple Reform Efforts. When trying to determine the effectiveness of a particular reform, researchers are hampered by the fact that high schools usually try more than one restructuring strategy at the same time. Some reform efforts seek to accomplish multiple objectives. For example, creating career pathways within high schools is an effort to link school and career by having students explore different career and education options. When pathways are organized around subject areas or themes (such as "business" or "social services"), they are also an attempt to increase student engagement in learning and reduce tracking of students. Students are encouraged to explore pathways based on their interests and students with different post-high school plans (e.g., four-year college, technical college, work) may be grouped into the same pathway. At the same time, the aims of some reforms appear contradictory, such as increasing academic rigor while addressing the learning needs of students not likely to complete college. The challenge for high schools and policymakers is determining which reforms matter, which will work in their communities, and which will address the educational needs, not just of some students, but of all students.

Summary

The traditional American high school has come under criticism for lacking a clear focus, not demanding high achievement from all students, and not providing a personalized learning environment that engages students. A variety of reforms of high school are being tried across the country. Some focus on creating a demanding and standards-based curriculum, others on developing programs to encourage students to link what they learn in school with their future educational and career plans, and still others on changing the school environment. The challenge for high schools and policymakers is determining which reforms matter, which will work in their communities, and which will address the educational need, not just of some students, but all students.

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[75] Mathematica Policy Research Inc., *Key High School Reform Strategies: An Overview of Research Findings*, p. 77.

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APPENDIX B: NATIONAL NETWORKS OF SCHOOL REFORM

The Coalition of Essential Schools, New American High Schools, and High Schools That Work are three major school reform networks in the United States. Each network promotes a model for school reform, and recognizes the importance of local community support and coalition building in advancing legislation that promotes their reform agendas.

The Coalition of Essential Schools

The Coalition of Essential Schools (CES) is a network of 24 regional centers and nearly 1,000 public and private schools in the U.S. that promotes school reform, particularly in high schools, based on eleven major principles.[1] These principles suggest schools should narrow their curricula to allow for more reflective learning and scale down the size of classes and schools to encourage relationship building.

CES curricula should focus on essential knowledge and skills, encouraging students to examine subjects deeply. With the support of suitable curricula and schedules, teachers should get to know students and adjust the curricula for individual student needs. CES promotes alignment of school reforms with the goals of the local community. A distinctive component of the CES reform model is that students should publicly demonstrate their knowledge prior to graduation. CES stresses schools should be small enough to allow for personalization. The following are key principles:

(1) Schools should address students' social and emotional development, as well as their academic progress.

(2) The school's academic goal should be simple: each student masters a limited number of essential skills and areas of knowledge.

(3) The school's goals should apply to all students, while the means to these goals will vary as those students themselves vary.

(4) Teaching and learning should be personalized to the maximum feasible extent.

(5) Coaching and guiding will be used to enable students to understand how they learn and how to work as a community of learners.

(6) Teaching and learning should be documented and assessed with multiple forms of evidence.

(7) The final diploma should be awarded upon a successful final demonstration of mastery for graduation—an "Exhibition."

(8) Families should be vital members of the school community.

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[1] Five CES schools are located in other countries: Canada, England, Israel (two schools), and South Africa.

(9) The principal and teachers should perceive themselves as generalists first and specialists second.

(10) Substantial time for collective planning by teachers and competitive salaries for staff are needed, but an ultimate per pupil cost should exceed that at traditional schools by no more than 10 percent.

(11) The school should honor diversity and build on the strengths of its communities, challenging all forms of inequity.

Ten high schools in Washington belong to CES: Eastlake (Redmond), Evergreen Senior (Vancouver), Finn Hill (Kirkland), Gig Harbor High School, Henry M. Jackson, (Mill Creek), Ilahee Junior (Federal Way), Inglewood Junior (Redmond), Nathan Hale (Seattle), Puyallup High School, and Thomas Jefferson (Auburn).

New American High Schools

New American High Schools (NAHS) are recognized by the U.S. Department of Education as leading-edge, model high schools that have implemented whole school reform based on four main criteria: (1) rigorous academic standards and high expectations for all students; (2) small, personalized, and safe learning environments; (3) emphasis on preparing students for higher education or the workplace; and (4) reforms suited to community needs.

The aim of the NAHS initiative is to encourage reforms that make high schools more effective institutions. NAHS supports reforms that aim to develop students' skills, decrease dropout rates, increase graduation rates, and prepare students for college and/or rewarding careers.

While no specific model is followed, NAHS schools have 12 strategies in common:

(1) Student learning and achievement guide the development of all core activities.

(2) Schools expect students to master the same rigorous academic material, eliminating the general track.

(3) Staff development and planning emphasize student learning and achievement.

(4) The curricula are challenging and relevant and cover material in depth.

(5) Schools use new forms of assessment such as portfolios and projects.

(6) Students get extra support from adults.

(7) Students learn about careers and college opportunities through real-life experiences.

(8) Schools create small, highly personalized, and safe learning environments.

(9) Schools integrate technology into the classroom to provide high-quality instruction, and students have opportunities to gain computer and other technical skills.

(10) Periods of instruction are longer and more flexible.

(11) Schools forge strong partnerships with middle schools and colleges.

(12) Schools form active alliances with parents, employers, community members, and policymakers to promote student learning and ensure accountability for results.

Schools compete nationally for the title; since the program began in 1996, 42 schools have been named NAHS. No high schools have been named NAHS in Washington during this period.[2]

High Schools That Work

High Schools That Work (HSTW) was established in 1987 to raise the academic achievement of vocational high school students and is one of seven initiatives of the Southern Regional Educational Board's (SREB) Vocational Education Consortium. The HSTW reform model is based on the principle that most students can master complex academic and technical concepts in an environment that encourages students to succeed. A prominent feature of the HSTW initiative is the use of data from student assessments to assist schools to improve learning practices, as well as academic and technical performance.

HSTW representatives visit participating high schools to provide technical assistance in developing a school improvement plan. The improvement plan is based on their visit to the school and data collected from assessments, as well as student, parent, and teacher opinions on instruction and curricula.

The HSTW initiative aims to enable at least 85 percent of high school students to reach or exceed the HSTW performance goals in reading, math, and science. The HSTW reform model is based on ten key practices:

(1) Setting higher expectations and getting more students to meet them.

(2) Increasing access to intellectually challenging vocational and technical studies, with a major emphasis on using high-level math, science, language arts, and problem-solving skills.

(3) Increasing access to academic studies that teach the essential concepts from the college pre-curriculum by encouraging students to use academic content and skills to address real world projects and problems.

(4) Requiring students to complete a program of study with an upgraded academic core and a career major.

(5) Integrating school-based and work–based learning.

(6) Ensuring organization and schedules give academic and vocational teachers time to plan and deliver integrated instruction with high-level academic and technical content.

(7) Involving students in rigorous and challenging learning.

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[2] The Bethel School District in Spanaway, WA, received an NAHS Honorable Mention in 1997.

(8) Involving students and parents in guidance and advising that ensures the completion of an accelerated program of study with an in-depth academic or vocational-technical major.

(9) Providing structure to enable students who may lack adequate preparation to complete an accelerated program.

(10) Using student assessment and program evaluation data to improve continuously the school climate, organization, management, curricula, and instruction to advance student learning.

In 2000, more than 1,000 schools in 23 states had joined their state's HSTW network or had become an HSTW site. High schools can either join the HSTW network, if their state is a member of the HSTW Consortium, or contract to become an HSTW site if their state does not participate. Washington is not a member of the HSTW Consortium, although Sumner High School contracted in 1998 to become an HSTW site.

Summary

The common themes underlying the principles of the network reform models are: (1) high expectations and challenging academic standards for students; (2) strong relationships within schools; (3) strong relationships between schools and communities; and (4) relating knowledge to real work experiences. Each of the networks emphasizes different aspects:

- Coalition of Essential Schools emphasizes the personalization of education through reducing school size and building relationships between teachers and students.
- New American High Schools emphasizes high expectations for all students and reforms suited to the community needs.
- High Schools That Work emphasizes vocational learning through academically challenging programs and connections to real-life experiences.

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APPENDIX C: SMALL SCHOOLS RESEARCH AND GRANT PROGRAMS

The encouragement of small schools is a popular strategy to address student engagement and motivation in high schools. This appendix examines four questions:

(1) Why create small schools?

(2) What is a small school?

(3) What are the benefits and possible pitfalls of small schools?

(4) Who funds small schools as a reform strategy?

Why Create Small Schools?

In recent years, there has been an increasing interest in encouraging or creating smaller learning environments for students. The federal and state governments, national school networks, and private foundations have all supported efforts to create small schools or reduce school size. The most prominent reason for establishing small schools is the creation of personalized education where strong relationships are formed.[1]

Small school advocates claim that large schools are not conducive to forming strong relationships between teachers and students. Students in large schools may not feel connected to the people or purpose of the school and may demonstrate these feelings through apathy, absenteeism, poor behavior, and low achievement. According to small school advocates, building strong relationships between teachers and students is an essential component of enhancing student learning, and a small school is the best way to accomplish this objective.

What Is a Small School?

Size of School

Studies on small schools recommend different enrollment sizes as ideal for a high school. Some studies suggest between 400 to 800 students for a secondary school.[2] Another study claimed a high school of 800 to 900 students is the perfect size for a secondary school, since it provides for diverse staffing and academic programming.[3] The Chicago School Reform Board (supporting over 100 small schools since 1995) suggests 500 students is the right size for a high school.[4]

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[1] Melinda Nixon Nickle, et al., "Does It Make a Difference if You Change the Structure?" *Phi Delta Kappan*, October 1990, p. 150.

[2] Kathleen Cotton, "School Size, School Climate, and Student Performance," *Close-Up #20*, (Portland, OR: Northwest Regional Educational Laboratory, 1996), p. 3.

[3] *Education Week*, "Urban Network Touts Virtues of Small High Schools", November 8, 2000, p. 8.

[4] Patricia A. Wasley, et al., *Small Schools: Great Strides*, The Chicago Small Schools Research Team, (New York: Bank Street College of Education, 2000), p. 9.

Types of Small Schools

There are two main types of small schools:

(1) Freestanding—A school with its own building, budget, and principal.

(2) Schools-Within-Schools (SWS)—One or more small schools co-exist within a conventional school, known as the host school. Alternatively, a group of small schools compose one large school and are housed within the same building or as part of the same campus. As Table 1 shows, SWS vary widely in structure and level of separateness and autonomy from the host school.

Table 1
Structure of Schools-Within-Schools[5]

Type of SWS	Characteristics
Vertical House Plans	Students in grades 9–12 or 10–12 are assigned to groups of a few hundred each within a large high school. Each "house" has its own discipline plan, student activity program, student government, and social activities.
Ninth Grade House Plan	Ninth graders have their own "house" within a large high school and have smaller classes and counseling for students to ease the transition into high school.
Special Curriculum Schools	Students are organized into houses based on special interests or needs (e.g., English-as-a-Second-Language, Career Academies).
Multiplex/Multi-schools	Schools could either share a building principal or have separate school principals, but each has a separate identity and operates independently from other "schools" in the building. The degree of budgetary autonomy and official recognition as a separate school varies.[6]

Research suggests SWS can produce results similar to those of freestanding small schools provided they have a sufficient level of autonomy and separateness from the host school. Some key features are autonomy over curriculum, scheduling, organization, staffing, and budget.[7] A number of studies also suggest that the SWS should be implemented fully because partial or piecemeal implementation reduces their chance of success.[8] While an SWS should also possess a distinct identity, different from that of the host school, it should not intentionally screen out particular students or inadvertently attract only certain groups of students.[9]

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[5] Cotton, School Size, p. 9.

[6] Wasley, et al., pp. 10-12. Some researchers describe multiplexes as a "type" of small school rather than a school-within-a-school, because some multiplexes merely share facilities and little else.

[7] *Education Week*, p. 8.

[8] Mary Ann Raywid, "Taking Stock: Mini-Schools, Schools-Within-Schools, and Separate Small Schools," Center for Restructuring Education, http://eric-web.tc.columbia.edu/monographs/uds108/downsizing.html, April 1996.

[9] Diana Oxley, "Organizing Schools Into Small Units: Alternative to Homogeneous Grouping. *Phi Delta Kappan* (March 1994), p. 526.

Small School Reform

Some small school reforms involve not only changing the size of the school, but also adopting a focus for the school and redesigning teaching practices. Approaches such as mixing students according to skill rather than age, individualizing learning activities, grouping students to work cooperatively, and bringing together teachers' skills through collaborative planning and team teaching is all more feasible with fewer numbers of students. However, it can be difficult to determine which reform is having an impact when these changes are implemented simultaneously with the reduction of the number of students.

What Are the Benefits and Possible Pitfalls of Small Schools?

Academic Performance

The relationship between a school's size and its students' levels of achievement is not clear due to varying measures of performance. Half the 49 primary source studies examined by one researcher found no difference in overall student achievement between small and large schools; the other half found greater student achievement in small schools compared with large schools. No studies found achievement at large schools to be greater than that at small schools.[10] In relation to other student outcomes, studies show decreased dropout rates and better attendance rates at small schools.[11]

However, studies have found more obvious differences in achievement for ethnic minority students and students of lower socio-economic status. Disadvantaged students in small schools significantly outperformed those in large schools on standardized basic skills tests.[12]

Student Attitudes and Behavior

Studies find benefits of small schools in relation to improved student attitudes towards learning, their teachers, and the school. In addition, students at small schools were more likely to have sense of belonging and less likely to feel alienated within the learning environment. Students in small schools demonstrate fewer problem behaviors such as substance abuse or class disruption. Both parents and students report overall greater satisfaction with small schools.[13]

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[10] Cotton, School Size, p. 3.

[11] Ibid, pp. 6-7.

[12] Wasley, p. 9.

[13] Raywid; and Oxley, pp. 149, 153, 521-526.

Relationships in the School

In addition to stronger relationships forged between students and teachers in small schools, teachers generally report a stronger professional community, a greater sense of efficacy, and more collaboration with other teachers. However, staff turnover and teacher burnout can burden small schools more than large schools.

Relationships in schools-within-schools can be somewhat problematic. The main criticism stems from conflicts between SWS and the host school. Problems have arisen over scheduling and competition for resources, which hampers the SWS' ability to adjust its organization and practices in line with its separate mission. SWS practices may undermine those of the host school, and teachers may appear to receive favored treatment. An unclear relationship between the small school and the host school principal could also be a source of tension.[14]

Another problem impeding the creation of small schools or downsizing larger ones is school board policies and procedures designed with large schools in mind. There can be tension between SWS attempts to develop or retain a distinct identity, and federal and local trends to standardize curriculum and practices.

Educational Opportunities

The main argument against small schools is that they cannot provide the wide range of curriculum, in terms of the number or range of courses aimed at students with different learning abilities, that is available in large schools. However, research shows no reliable relationship between quality of curriculum and school size. One study estimates that only 5 to 12 percent of students take the extra courses offered in large schools; another claims a 100 percent increase in enrollment results in only a 17 percent increase in variety of offerings.[15]

Additional opportunities to participate in extra-curricular activities do not necessarily grow proportionally with growth in school size. In small schools, a larger proportion of students, including minority and low socio-economic status students, participate in extra-curricular activities because they are needed to populate the teams or clubs.[16]

Cost-Effectiveness

Another major argument against small schools is that they are not cost-effective since they cannot take advantage of economies of scale and cannot provide the range of equipment and facilities that large schools can offer. Studies have attempted to refute this claim. One study found as large schools grow, the cost per student initially falls, but after an optimum level of growth the cost per student begins to rise.[17] Downsizing large schools to form SWS could prove less expensive than implementing reforms in the host school because the SWS shares a principal and other resources with the host school.

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[14] Raywid.
[15] Cotton, School Size, p. 4.
[16] Kathleen Cotton, "Affective and Social Benefits of Small-Scale Schooling," *ERIC Digest*, ERIC Clearinghouse on Rural Education and Small School, EDO-RC-96-5, December, 1996, p. 2.
[17] Cotton, School Size, p. 4.

Tables 2 and 3 summarize research results on the benefits and possible pitfalls of small schools.

Table 2
Research on Benefits of Small Schools Compared With Large Schools

Academic Performance	Attitudes and Behavior	Relationships in the School
Disadvantaged students improve performance on standardized tests Mixed results on student achievement (some positive, some no difference) Lower dropout rates Higher attendance rates Higher graduation rates	Students take on more responsibility Students feel a sense of ownership of their school Students feel a greater sense of personal effectiveness Students are less likely to engage in problem or risky behavior Students are less likely to be truant	Students and teachers come to know and care about each other More students participate in clubs, teams, and student government Students are less likely to feel isolated or overlooked Students are more likely to view teachers positively Close-knit community of educational staff, students, and parents

Table 3
Research on Possible Pitfalls of Small Schools Compared With Large Schools

Relationships in the School	Educational Opportunities	Cost-Effectiveness[18]
Tensions within the faculty may be magnified SWS may compete with host school for resources Host school may resent favoritism of SWS and staff SWS faculty are distanced from host school faculty Students find it hard to shake negative reputations of earlier years or older siblings	Curriculums are not as diverse as at large schools Limited capacity to tailor courses according to student ability[19] Limited capacity to offer a wide range of extra-curricular activities	Cannot take advantage of economies of scale Cannot provide range of equipment offered by large schools Cannot provide range of facilities offered by large schools

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[18] The cost-effectiveness arguments might not apply as much to schools-within-schools depending on the extent they are able to take advantage of the host school facilities or share resources.

[19] Valerie Lee, et al., "Inside Large and Small High School: Curriculum and Social Relation," *Educational Evaluation and Policy Analysis* 22(2), Summer 2000, p. 148. Conversely, studies also suggest the practice of separating students according to ability can have negative results, such as providing low-performing students with little opportunity or challenge, placing them according to incorrect stereotypes (race, income), and offering them a less stimulating curriculum taught by less qualified teachers.

Who Funds Small Schools as a Reform Strategy?

U.S. Department of Education

The Smaller Learning Communities Program is a U.S. Department of Education initiative granting $42.3 million to help large high schools create smaller, more personalized learning communities. Nationally, 354 schools have received one-year planning funding or three-year implementation funding. Recipients may employ such strategies as creating SWS or career academies. In Washington, the Edmonds School District received a one-year planning grant of $50,000.

Bill and Melinda Gates Foundation

During 2000, the Bill and Melinda Gates Foundation (Foundation) granted $350 million nationally to institutions, school networks, and school districts to support education reforms that improve teaching and learning, increase access to technology, and build stronger relationships between schools, homes, and communities. Of these funds, $37 million is dedicated to encourage the development of small, innovative schools.[20] The Foundation believes that smaller schools are more effective, and the size of a school plays an intrinsic role in its ability to advance student achievement.[21]

Within Washington State, the University of Washington received $750,000 from the Foundation to establish the Small Schools Program at the Center on Reinventing Public Education. In addition, ten Washington school districts received more than $70 million to accelerate reforms and create high achievement model districts.[22] One component of the grants to the school districts involves considering restructuring high schools into multiplex schools where one school might be divided into two or more smaller schools, each with its own principal and classrooms but sharing other facilities (see Table 4).

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[20] Ruth Schubert, "Small, Innovative Schools Get Big Gift From the Gateses," *Seattle Post Intelligencer*, September 6, 2000.

[21] Tom Vander Ark, Executive Director of Education Division of the Bill and Melinda Gates Foundation. The Bill and Melinda Gates Foundation web site: http://www.gatesfoundation.org/pressroom/, "Port Angeles School District Recognized as High-Achievement Model by the Bill and Melinda Gates Foundation," (August 28, 2000).

[22] The grant amounts were based on districts' student population and whether they were high-need districts.

Table 4

Gates Foundation Grants to Washington School Districts

School District	Grant Amount (in millions)
Seattle	$ 25.9
Spokane	$ 16.5
Evergreen	$ 9.3
Kennewick	$ 7.3
Bellingham	$ 4.5
Port Angeles	$ 2.7
Enumclaw	$ 2.3
Nooksack Valley	$ 1.0
Hockinson	$ .9
Mabton	$ .5

Annenberg Foundation

The goals of the Annenberg Foundation are similar to those of the Coalition of Essential Schools (see Appendix B: National Networks of School Reform). The goals focus on improving school climate as a means of improving student achievement. According to the CES model, reducing school size is an essential strategy in creating a learning environment conducive to building strong relationships between teachers, teachers and students, and the school and community.

The Annenberg Foundation promised a $500 million matching grant called "Challenge to the Nation," to encourage reforms for schools serving America's most disadvantaged children. Since 1993, the foundation has made grants to 2,450 public schools in 35 states, as well as the Annenberg Institute for School Reform,[23] New American High Schools, and the Education Commission of the States. As of April 2000, public and private sources had contributed over $604 million in matching funds. No grants have been made to high schools in Washington State.

Summary

There is increasing support for small schools from a variety of organizations and government entities. The available research suggests small schools can produce some gains for all students, but more significant gains for disadvantaged students. The benefits from reforms to create schools-within-schools appear to vary depending on how fully this reform is implemented and the degree of separateness and autonomy from the host school. The arguments against small schools are reduced cost-efficiency and the inability to offer as diverse a curriculum as large schools. Some research refutes these arguments. To the extent that schools attempt multiple reforms simultaneously (including reducing size), it becomes difficult to determine which reform is having an impact.

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[23] The Annenberg Institute is the research branch of the Annenberg Foundation. It focuses on schools in urban communities and schools serving disadvantaged children. The Annenberg Institute for School Reform website: http://www.airs.brown.edu/

References

The Annenberg Foundation web site: http://www.whannenberg.org/index.html

The Annenberg Institute for School Reform web site: http://www.aisr.brown.edu/

The Bill and Melinda Gates Foundation web site:
http://www.gatesfoundation.org/learning/education/default.htm
Press Releases: http://www.gatesfoundation.org/pressroom:
"Port Angeles School District Recognized as High-Achievement Model by the Bill and Melinda Gates Foundation." Press release, September 28, 2000.
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APPENDIX D: HISTORY OF STATE LEGISLATIVE POLICY CHANGES FOR HIGH SCHOOL

This appendix provides a more detailed description of state legislative policy changes for high schools over the last 30 years.

1970s

Standardized Tests

State policymakers wanted to know how well Washington students were doing academically in comparison to their peers in other states. As a result, the legislature requested that the Office of the Superintendent of Public Instruction (OSPI) conduct the first statewide-standardized tests on a sample of 8th and 11th graders.[1]

Student Learning Objectives

The legislature passed a law to ensure school districts developed student-learning objectives for language arts, reading, and math.[2] Student attainment of these objectives was to be measured through local assessments.

Skills Centers

In the mid 1970s, OSPI wanted to encourage the establishment of secondary vocational area schools similar to one operating in South King County (started with inter-district cooperative authority granted from the legislature). The legislature provided funding for a feasibility study[3] that resulted in legislative funding for 90 percent of the capital costs to build skills centers across the state.[4] The purpose of these centers was to provide inter-district programs not affordable to individual districts due to the investment needed in equipment. Funding for skills centers has continued into the 1990s. Currently, there are nine skills centers.

1980s

Statewide High School Graduation Requirements

The legislature created specific high school graduation requirements for English, math, social studies, science, occupational education, physical education, and general electives,[5] as well as an elective in fine, visual, or performing arts.[6] The State Board of Education (SBE) was responsible for overseeing these requirements and making any needed changes. School districts were also given the express authority to grant high school diplomas.[7]

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[1] C 98 L75-76 specified a sample of 2,000 students in 8th grade and 2,000 students in 11th grade.

[2] C 305 L77 required school districts to create student learning objective requirements for grades 9–12. C 90 L75-76 required school districts to create these objectives for grades K–8.

[3] The 1972-1973 operating budget.

[4] State capital budgets from the mid-1970s to mid-1980s.

Standardized High School Transcripts

In an effort to increase standardization, several measures were enacted. The legislature required the SBE to develop a standardized high school transcript to enable a comparison between different schools' credit systems (e.g., quarter, semester, and trimester).[8] In addition, the legislature required public four-year baccalaureate institutions to establish uniform minimum entrance requirements.[9]

Schools for the Twenty-First Century Program

The legislature created the "Schools for the Twenty-First Century Program" to foster change in the state common school system and improve student performance. Projects were funded from 1987 until 1994 at roughly $10 million per biennium.[10] Some of these projects were in high schools.

1990s

Graduation and Dropout Statistics

In an effort to keep track of what happens to students' educational progress in high school, the legislature required school districts to report annually to OSPI on the number of high school students who are enrolled, graduate, transfer, have an unknown status, or drop out.[11]

Running Start

Running Start was created by the legislature as part of an overall move to increase student and parental choice in educational programs for some students who were ready for a college-level learning experience off the high school campus.[12] Several four-year colleges[13] and community colleges in Oregon and Idaho[14] were added over the years as Running Start options for students.

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[5] C 278 L84 specified that there should be 3 years of English, 2 years of math, 2.5 years of social studies (U.S., Contemporary, and Washington), 2 years of science, 1 year of occupational education, as well as 5.5 years of electives. These were outlined as credits, but total credits can be translated into years. In 1992, the Legislature removed the list of credits and delegated full authority to the SBE (see RCW 28A.390).

[6] C 384 L85 added an additional elective and specified that it must be in the area of fine, visual or performing arts.

[7] C 178 L85

[8] C 178 L85

[9] C 278 L84

[10] C 525 L87

[11] C 235 L91

[12] C 9 L90 provided a number of student enrollment options, including-inter district transfer.

[13] C 204 L94

[14] C 63 L98

High School and Beyond Assessment

The legislature set up a high school and beyond assessment for all 8th and 11th grade students to obtain academic achievement measures and career interests for all students in those particular grades.[15] Students, parents, and teachers could use the information from these assessments for future planning, in terms of high school and initial years beyond high school.

Academic/Vocational Integration (School to Work) Pilots

In an effort to increase post-high school options and eliminate rigid tracking, the legislature created pilot projects to integrate vocational and academic curricula.[16] These projects, and further encouragement to explore educational pathways at high school, became folded into the school to work transitions program.

Approximately $2.5 million in funding was provided for selected school districts in the 1993-95 biennium.

Certificate of Mastery and Educational Pathways

Education reform became a major focus for all state policymakers throughout the decade. To increase flexibility for the SBE, the legislature removed high school credit requirements from the statutes.[17] The education reform act passed,[18] which created a significant change in the state's role by prescribing the expected academic learning requirements and standards that students should meet in benchmark grades. Perhaps the most significant impact for high school was the requirement that students must pass the Washington Assessment of Student Learning for 10th grade in order to receive a high school diploma. Students in 11th and 12th grade are expected to pursue educational pathways.[19] Parents must be notified of their child's selected educational pathway.[20]

Postsecondary College Reports on Remediation

Public universities and community and technical colleges must report annually on their Washington high school graduates who are enrolled in remedial classes.[21]

High School Credit Equivalencies for College Classes

The legislature adopted the recommendations of its task force to continue to allow the current granting of 1 high school credit for every 5 quarters or 3 semesters of college credit. The SBE had tried to reduce the amount of college credit earned as high school credit.[22]

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[15] C 101 L90
[16] C 137 L92
[17] C 141 L93
[18] C 336 L93
[19] Ibid
[20] C 226 L98
[21] C 310 L95
[22] C 222 L97

Alternative Education School Startup Grants

In an effort to address the concerns of truant students and dropouts, the legislature created a grant program for the startup costs of alternative education schools. $2 million was provided in the 1995-97 biennium. Funding has continued in the ensuing biennia (1997-99 and 1999-01). An extended-day skills center program was also funded to provide skill training for dropouts or students at risk of dropping out.[23]

Internet-Based Curriculum for High Schools

In an effort to enable rural students to increase their access to higher-level curricula, $500,000 was available in the 1999-01 biennium for high schools to offer their students advanced courses over the Internet. Approximately 100 schools have received one-time only grants. The primary focus is for students in remote areas of the state.[24]

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[23] C 165 L96
[24] C 309 L99

APPENDIX E: DATA AVAILABLE ON WASHINGTON STATE HIGH SCHOOL AND COLLEGE STUDENTS

	OSPI P210[1]	OSPI WASL AND ITED[2]	SBCTC	OFM[3]	HECB FINANCIAL AID	INDIVIDUAL FOUR-YEAR COLLEGES	EMPLOYMENT SECURITY	COMMENTS
STUDENT NAME	✓	✓		✓	✓	✓		Unable to link OSPI and SBCTC data bases because OSPI uses name and SBCTC uses Social Security number.
STUDENT BIRTHDAY (MMDDYY)	✓	✓	✓		✓	✓		
IDENTIFICATION (ID) NUMBER	✓	✓	✓	✓	✓	✓	✓	Social Security number is requested in all cases checked except the P210, which asks for a student ID (could be their Social Security number).
GRADUATION YEAR	✓							
ENTRY TO DISTRICT	✓							
EXIT FROM DISTRICT	✓							
ETHNICITY	✓	✓	✓	✓	✓	✓		
GENDER	✓	✓	✓	✓	✓	✓		
SOCIOECONOMIC STATUS	✓				✓			Incomplete information at the high school level.

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[1] P210 Public High School Enrollment Status. Data quality is best from 1997-98 forward. OSPI is creating a common student identification number that will be available for all Washington State students in 2001-02. Currently, some school districts provide an identification number, others do not.

[2] OSPI conducts the Washington Assessment of Student Learning (WASL) in 10th grade and the Iowa Test of Educational Development (ITED) in 9th grade (formerly in 11th grade). Information is not available on individual students.

[3] OFM Data is only on higher education students.

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	OSPI P210[1]	OSPI WASL AND ITED[2]	SBCTC	OFM[3]	HECB FINANCIAL AID	INDIVIDUAL FOUR-YEAR COLLEGES	EMPLOYMENT SECURITY	COMMENTS
DISABILITY	✓		✓		✓			
ENROLLMENT STATUS	✓		✓	✓	✓	✓		OSPI *Completer* (Graduated, GED, IEP Adult Diploma) and *Leaver* (Transfer, Work, Lack of Academic Progress, etc.).
GRADE/CLASS	✓	✓	✓			✓		
GPA	✓		✓			✓		
VOCATIONAL PROGRAM AREA COMPLETER	✓							Added in 1997-98 school year. A vocational program completer is defined as any student who has 360 hours in a single vocational program area.
ENROLLMENT IN SPECIFIC VOCATIONAL COURSE	✓							Added in 1997-98 school year. Expanded in 1999-00 to include all students, not just vocational completers.
ADVANCED PLACEMENT	✓	✓						
RUNNING START			✓					
EMPLOYMENT					✓		✓	HECB data related to work study; ESD for all other employment. Unable to link OSPI and ESD data bases because OSPI uses name and ESD uses Social Security number.
GED	✓		✓					SBCTC data are the most complete.
REMEDIAL COURSES			✓			✓		
TEST SCORES		✓						OSPI has test scores for students on SATs, WASLs, ITED, and CFAS.

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APPENDIX F: COLLEGE DATA ON STUDENT PERFORMANCE

Data is provided on students who graduated from Washington public high schools and who then enrolled for the first time in a two- or four-year public higher education institution during 1995-99 (when possible) directly from high school. The four-year public universities and colleges and the State Board for Community and Technical Colleges (for all community and technical colleges) provided the information. It includes the following:

- Enrollment of first year students with Running Start and no Running Start credit.
- Running Start credit students by gender, ethnicity, and race.
- High school student GPA for Running Start credit and no Running Start credit students.
- First-year college cumulative GPA for Running Start credit and no Running Start credit students.
- First-year dropout rates for Running Start credit and no Running Start credit students.
- Need-based aid for Running Start credit and no Running Start credit students.
- Graduation Efficiency Index for Running Start credit and no Running Start credit students (student progress for Community and Technical Colleges).
- Average college-level credit accepted by type of credit.
- First-year students' math experiences.

Each higher education institution's data is presented separately, with the exception of the two-year institutions. A special thanks to the staff at the universities and colleges and the State Board of Community and Technical Colleges who submitted the data requested for this aspect of the study.

Central Washington University: Undergraduate Students From Washington Public High Schools

Number of Students

	Fall 1995	Fall 1996	Fall 1997	Fall 1998	Fall 1999
No Running Start	784	866	755	686	819
Running Start	58	101	97	95	90
Total	842	967	852	781	909
Percent Running Start	7%	10%	11%	12%	10%

Students Who Took Running Start, by Gender

	Fall 1995	Fall 1996	Fall 1997	Fall 1998	Fall 1999
Male	18	29	35	33	33
Female	40	72	62	62	57

Non Asian-Pacific Minorities

	Fall 1995	Fall 1996	Fall 1997	Fall 1998	Fall 1999
No Running Start	67	76	51	64	81
Running Start	6	9	6	9	*

* Less than 5

Running Start by Ethnic Racial Category (excluding unknowns)

	Fall 1995	Fall 1996	Fall 1997	Fall 1998	Fall 1999
Non Asian-Pacific	6	9	6	9	*
Asian-Pacific	*	*	*	*	*
Caucasian**	47	87	85	75	78
Total	53	96	91	84	78

* Less than 5

** Includes Middle-Eastern

When ethnic racial status was not indicated, those students were not included.

Running Start by Ethnic Racial Category (excluding unknowns)

	Fall 1995	Fall 1996	Fall 1997	Fall 1998	Fall 1999
Non Asian-Pacific	11%	9%	7%	11%	NA
Asian-Pacific	NA	NA	NA	NA	NA
Caucasian	89%	91%	93%	89%	100%

When ethnic racial status was not indicated, those students were not included.

High School GPA

	Fall 1995	Fall 1996	Fall 1997	Fall 1998	Fall 1999
No Running Start	3.19	3.22	3.22	3.16	3.17
Running Start	3.37	3.31	3.36	3.26	3.28

No Other Data Available

Eastern Washington University: Undergraduate Students From Washington Public High Schools

Number of Students

	Fall 1995	Fall 1996	Fall 1997	Fall 1998	Fall 1999
No Running Start	697	673	650	851	1061
Running Start	18	24	31	67	85
Total	715	697	681	918	1146
Percent Running Start	3%	3%	5%	7%	7%

Students Who Took Running Start, by Gender

	Fall 1995	Fall 1996	Fall 1997	Fall 1998	Fall 1999
Male	9	7	14	22	37
Female	9	17	17	45	48

Non Asian-Pacific Minorities

	Fall 1995	Fall 1996	Fall 1997	Fall 1998	Fall 1999
No Running Start	77	70	69	96	106
Running Start	*	*	*	9	*

* Less than 5

Running Start by Ethnic Racial Category (excluding unknowns)

	Fall 1995	Fall 1996	Fall 1997	Fall 1998	Fall 1999
Non Asian-Pacific	*	*	*	9	*
Asian-Pacific	*	*	*	*	*
Caucasian	13	16	24	54	13
Total	13	16	24	63	13

* Less than 5

When ethnic racial status was not indicated, those students were not included.

Running Start by Ethnic Racial Category (excluding unknowns)

	Fall 1995	Fall 1996	Fall 1997	Fall 1998	Fall 1999
Non Asian-Pacific	NA	NA	NA	14%	NA
Asian-Pacific	NA	NA	NA	NA	NA
Caucasian	100%	100%	100%	86%	100%

When ethnic racial status was not indicated, those students were not included.

High School GPA

	Fall 1995	Fall 1996	Fall 1997	Fall 1998	Fall 1999
No Running Start	3.31	3.29	3.21	3.21	3.29
Running Start	3.61	3.42	3.41	3.4	3.51

Number of College Level Credits Accepted

	Fall 1995	Fall 1996	Fall 1997	Fall 1998	Fall 1999
Running Start Credit	NA	NA	26	28	26
Other Credit	NA	NA	NA	NA	NA

First-Year Dropouts

	Fall 1995	Fall 1996	Fall 1997	Fall 1998	Fall 1999
No Running Start	237	196	170	228	237
Running Start	11	13	17	40	46

First-Year Dropouts

	Fall 1995	Fall 1996	Fall 1997	Fall 1998	Fall 1999
No Running Start	34%	29%	26%	27%	22%
Running Start	61%	54%	55%	60%	54%

Math Experiences of First Year After High School College Students Entering in the Fall

	Fall 1995	Fall 1996	Fall 1997	Fall 1998	Fall 1999
Took Remedial Math in College	266	222	287	386	533
Took Intermediate Algebra or Greater in High School	NA	NA	NA	NA	NA
Brought Math College Credit from High School	200	161	85	80	73

Percent of First Year After High School College Students Math Experiences

	Fall 1995	Fall 1996	Fall 1997	Fall 1998	Fall 1999
Took Remedial Math in College	37%	32%	42%	42%	47%
Took Intermediate Algebra or Greater in High School	NA	NA	NA	NA	NA
Brought Math College Credit from High School	28%	23%	12%	9%	6%

No Other Data Available

The Evergreen State College: Undergraduate Students From Washington Public High Schools

Number of Students

	Fall 1995	Fall 1996	Fall 1997	Fall 1998	Fall 1999
No Running Start	211	208	148	149	126
Running Start	NA	NA	41	32	49
Total	211	208	189	181	175
Percent Running Start	NA	NA	22%	18%	28%

(Running Start data not collected until 1997)

Students Who Took Running Start, by Gender

	Fall 1995	Fall 1996	Fall 1997	Fall 1998	Fall 1999
Male	NA	NA	20	10	NA
Female	NA	NA	21	22	NA

Non Asian-Pacific Minorities

	Fall 1995	Fall 1996	Fall 1997	Fall 1998	Fall 1999
No Running Start	NA	12	36	NA	NA
Running Start	NA	NA	10	5	NA

Running Start by Ethnic Racial Category (excluding unknowns)

	Fall 1995	Fall 1996	Fall 1997	Fall 1998	Fall 1999
Non Asian-Pacific	NA	NA	13	5	NA
Asian-Pacific	NA	NA	*	*	NA
Caucasian	NA	NA	28	25	NA
Total	NA	NA	NA	NA	NA

* Less than 5

When ethnic racial status was not indicated, those students were not included.

High School GPA

	Fall 1995	Fall 1996	Fall 1997	Fall 1998	Fall 1999
No Running Start	3.26	3.13	3.15	3.14	3.26
Running Start	NA	NA	3.35	3.31	3.35

First-Year Dropouts

	Fall 1995	Fall 1996	Fall 1997	Fall 1998	Fall 1999
No Running Start	61	NA	32	46	33
Running Start	NA	NA	5	14	7

First-Year Dropouts

	Fall 1995	Fall 1996	Fall 1997	Fall 1998	Fall 1999
No Running Start	29%	NA	22%	31%	26%
Running Start	NA	NA	12%	44%	14%

First-Year Need-Based Aid

	Fall 1995	Fall 1996	Fall 1997	Fall 1998	Fall 1999
No Running Start	102	88	68	78	69
Running Start	NA	NA	20	20	32

First-Year Need-Based Aid

	Fall 1995	Fall 1996	Fall 1997	Fall 1998	Fall 1999
No Running Start	48%	42%	46%	52%	55%
Running Start	NA	NA	49%	63%	65%

Graduation Efficiency Index for Freshmen Who Started in Fall Indicated Below (transfers not included)

	Fall 1995	Fall 1996	Fall 1997	Fall 1998	Fall 1999
No Running Start	91	92	NA	NA	NA
Running Start	NA	NA	NA	NA	NA

Average Number of College Level Credits Accepted

	Fall 1995	Fall 1996	Fall 1997	Fall 1998	Fall 1999
Running Start Credit	NA	NA	21	14	28
Other Credit	24	16	8	21	21

No Other Data Available

University of Washington: Undergraduate Students From Washington Public High Schools

Number of Students

	Fall 1995	Fall 1996	Fall 1997	Fall 1998	Fall 1999
No Running Start	2030	2249	2584	2680	2596
Running Start	201	409	420	496	709
Total	2231	2658	3004	3176	3305
Percent Running Start	10%	18%	16%	19%	27%

Students Who Took Running Start, by Gender

	Fall 1995	Fall 1996	Fall 1997	Fall 1998	Fall 1999
Male	90	188	184	244	342
Female	111	221	236	252	367

Non Asian-Pacific Minorities

	Fall 1995	Fall 1996	Fall 1997	Fall 1998	Fall 1999
No Running Start	163	186	227	228	160
Running Start	11	27	26	32	37

Running Start by Ethnic Racial Category (excluding unknowns)

	Fall 1995	Fall 1996	Fall 1997	Fall 1998	Fall 1999
Non Asian-Pacific	11	27	26	32	37
Asian-Pacific	51	96	107	136	201
Caucasian	127	261	237	280	382
Total	189	384	370	448	620

When ethnic racial status was not indicated, those students were not included.

Running Start by Ethnic Racial Category (excluding unknowns)

	Fall 1995	Fall 1996	Fall 1997	Fall 1998	Fall 1999
Non Asian-Pacific	6%	7%	7%	7%	6%
Asian-Pacific	27%	25%	29%	30%	32%
Caucasian	67%	68%	64%	63%	62%

When ethnic racial status was not indicated, those students were not included.

High School GPA

	Fall 1995	Fall 1996	Fall 1997	Fall 1998	Fall 1999
No Running Start	3.63	3.64	3.64	3.67	3.65
Running Start	3.63	3.64	3.63	3.67	3.67

Cumulative Average GPA in College for First-Year Students

	95-96	96-97	97-98	98-99	99-00
No Running Start	2.97	2.98	3	3.01	3
Running Start	3.03	3.04	2.98	3.03	3.01

First-Year Dropouts

	Fall 1995	Fall 1996	Fall 1997	Fall 1998	Fall 1999
No Running Start	165	226	220	277	231
Running Start	28	36	66	61	97

First-Year Dropouts

	Fall 1995	Fall 1996	Fall 1997	Fall 1998	Fall 1999
No Running Start	8%	10%	9%	10%	9%
Running Start	14%	9%	16%	12%	14%

First-Year Need-Based Aid

	Fall 1995	Fall 1996	Fall 1997	Fall 1998	Fall 1999
No Running Start	850	959	1070	983	889
Running Start	106	187	195	208	255

First-Year Need-Based Aid

	Fall 1995	Fall 1996	Fall 1997	Fall 1998	Fall 1999
No Running Start	42%	43%	41%	37%	34%
Running Start	53%	46%	46%	42%	36%

Graduation Efficiency Index for Freshmen Who Started in Fall Indicated Below (transfers not included) and Have Graduated

	Fall 1995	Fall 1996	Fall 1997	Fall 1998	Fall 1999
No Running Start	96	97	NA	NA	NA
Running Start	90	92	NA	NA	NA

Number of College Level Credits Accepted

	Fall 1995	Fall 1996	Fall 1997	Fall 1998	Fall 1999
Running Start Credit	NA	NA	28	30	31
Other Credit	NA	NA	10	10	10

Math Experiences of First Year After High School College Students Entering in the Fall

	Fall 1995	Fall 1996	Fall 1997	Fall 1998	Fall 1999
Took Remedial Math in College	170	246	195	236	203
Took Intermediate Algebra or Greater in High School	194	245	282	369	400
Brought Math College Credit From High School	346	485	579	703	785

Percent of First Year After High School College Students Math Experiences

	Fall 1995	Fall 1996	Fall 1997	Fall 1998	Fall 1999
Took Remedial Math in College	8%	9%	6%	7%	6%
Took Intermediate Algebra or Greater in High School	9%	9%	9%	12%	12%
Brought Math College Credit From High School	16%	18%	19%	22%	24%

Washington State University: Undergraduate Students From Washington Public High Schools

Number of Students

	Fall 1995	Fall 1996	Fall 1997	Fall 1998	Fall 1999
No Running Start	1959	1779	1711	2327	1896
Running Start	85	121	168	211	220
Total	2044	1900	1879	2538	2116
Percent Running Start	4%	6%	9%	8%	10%

Students Who Took Running Start, by Gender

	Fall 1995	Fall 1996	Fall 1997	Fall 1998	Fall 1999
Male	38	35	52	67	77
Female	50	77	85	108	102

Non Asian-Pacific Minorities

	Fall 1995	Fall 1996	Fall 1997	Fall 1998	Fall 1999
No Running Start	161	136	132	191	134
Running Start	*	12	14	14	9

* Less than 5

Running Start by Ethnic Racial Category (excluding unknowns)

	Fall 1995	Fall 1996	Fall 1997	Fall 1998	Fall 1999
Non Asian-Pacific	*	12	14	14	9
Asian-Pacific	6	*	5	12	21
Caucasian	72	102	135	170	183
Total	78	114	154	196	213

* Less than 5

When ethnic racial status was not indicated, those students were not included.

Running Start by Ethnic Racial Category (excluding unknowns)

	Fall 1995	Fall 1996	Fall 1997	Fall 1998	Fall 1999
Non Asian-Pacific	NA	11%	9%	7%	4%
Asian-Pacific	8%	NA	3%	6%	10%
Caucasian	92%	89%	88%	87%	86%

When ethnic racial status was not indicated, those students were not included.

Cumulative Average GPA in College for First-Year Students

	95-96	96-97	97-98	98-99	99-00
No Running Start	2.84	2.83	2.77	2.79	2.82
Running Start	2.94	3.06	2.96	2.93	2.91

First-Year Dropouts

	Fall 1995	Fall 1996	Fall 1997	Fall 1998	Fall 1999
No Running Start	160	116	145	184	155
Running Start	*	*	15	20	18

* Less than 5

First-Year Dropouts

	Fall 1995	Fall 1996	Fall 1997	Fall 1998	Fall 1999
No Running Start	8%	7%	8%	8%	8%
Running Start			9%	9%	8%

First-Year Need-Based Aid

	Fall 1995	Fall 1996	Fall 1997	Fall 1998	Fall 1999
No Running Start	797	878	1530	1764	1432
Running Start	42	97	159	179	176

First-Year Need-Based Aid

	Fall 1995	Fall 1996	Fall 1997	Fall 1998	Fall 1999
No Running Start	41%	49%	89%	76%	76%
Running Start	49%	80%	95%	85%	80%

Graduation Efficiency Index for Freshmen Who Started in Fall Indicated Below (transfers not included) and Have Graduated

	Fall 1995	Fall 1996	Fall 1997	Fall 1998	Fall 1999
No Running Start	91	94	NA	NA	NA
Running Start	83	86	NA	NA	NA

Number of College Level Credits Accepted

	Fall 1995	Fall 1996	Fall 1997	Fall 1998	Fall 1999
Running Start Credit	40	48	56	48	51
Other Credit	18	16	18	46	20

Math Experiences of First Year After High School College Students Entering in the Fall

	Fall 1995	Fall 1996	Fall 1997	Fall 1998	Fall 1999
Took Remedial Math in College	432	406	454	643	462
Took Intermediate Algebra or Greater in High School	310	165	159	209	165
Brought Math College Credit from High School	34	58	118	173	125

Percent of First Year After High School College Students Math Experiences

	Fall 1995	Fall 1996	Fall 1997	Fall 1998	Fall 1999
Took Remedial Math in College	21%	21%	24%	25%	22%
Took Intermediate Algebra or Greater in High School	15%	9%	8%	8%	8%
Brought Math College Credit from High School	2%	3%	6%	7%	6%

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Western Washington University: Undergraduate Students From Washington Public High Schools

Number of Students

	Fall 1995	Fall 1996	Fall 1997	Fall 1998	Fall 1999
No Running Start	1663	1868	1882	1982	1883
Running Start	119	214	260	217	306
Total	1782	2082	2142	2199	2189
Percent Running Start	7%	10%	12%	10%	14%

Students Who Took Running Start, by Gender

	Fall 1995	Fall 1996	Fall 1997	Fall 1998	Fall 1999
Male	29	76	86	76	NA
Female	90	138	174	141	NA

Non Asian-Pacific Minorities

	Fall 1995	Fall 1996	Fall 1997	Fall 1998	Fall 1999
No Running Start	122	125	120	131	NA
Running Start	10	10	19	12	NA

Running Start by Ethnic Racial Category (excluding unknowns)

	Fall 1995	Fall 1996	Fall 1997	Fall 1998	Fall 1999
Non Asian-Pacific	10	10	19	12	NA
Asian-Pacific	8	17	16	14	NA
Caucasian	91	214	203	174	NA
Total	109	241	238	200	NA

When ethnic racial status was not indicated, those students were not included.

Running Start by Ethnic Racial Category (excluding unknowns)

	Fall 1995	Fall 1996	Fall 1997	Fall 1998	Fall 1999
Non Asian-Pacific	9%	4%	8%	6%	NA
Asian-Pacific	7%	7%	7%	7%	NA
Caucasian	83%	89%	85%	87%	NA

When ethnic racial status was not indicated, those students were not included.

Cumulative Average GPA in College for First-Year Students

	95-96	96-97	97-98	98-99	99-00
No Running Start	NA	NA	NA	NA	NA
Running Start	2.94	2.9	2.74	2.85	NA

No Other Data Available

Community and Technical Colleges: Undergraduate Students From Washington Public High Schools

Number of Students

	Summer 95	Summer 96	Summer 97	Summer 98	Summer 99
No Running Start	14464	14865	15722	16174	17023
Running Start	1642	1852	2273	2626	2696
Total	16106	16717	17995	18800	19719
Percent Running Start	10%	11%	13%	14%	14%

Students Who Took Running Start, by Gender

	Summer 95	Summer 96	Summer 97	Summer 98	Summer 99
Male	537	659	821	931	1015
Female	1104	11	1446	1692	1669

Non Asian-Pacific Minorities

	Summer 95	Summer 96	Summer 97	Summer 98	Summer 99
No Running Start	1458	1580	1808	1886	1958
Running Start	97	125	147	167	190

Running Start by Ethnic Racial Category (excluding unknowns)

	Summer 95	Summer 96	Summer 97	Summer 98	Summer 99
Non Asian-Pacific	97	125	99	167	190
Asian-Pacific	84	114	79	149	222
Caucasian	1430	1567	1911	2203	2152
Total	1611	1806	2089	2519	2564

When ethnic racial status was not indicated, those students were not included.

Running Start by Ethnic Racial Category (excluding unknowns)

	Summer 95	Summer 96	Summer 97	Summer 98	Summer 99
Non Asian-Pacific	6%	7%	5%	7%	7%
Asian-Pacific	5%	6%	4%	6%	9%
Caucasian	89%	87%	91%	87%	84%

When ethnic racial status was not indicated, those students were not included.

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Cumulative Average GPA in College for First-Year Students

	95-96	96-97	97-98	98-99	99-00
No Running Start	2.48	2.47	2.46	2.45	2.44
Running Start	2.71	2.75	2.7	2.72	2.74

Student Progress for Students With No Running Start Credit

	Summer 95	Summer 96	Summer 97	Summer 98	Summer 99
Early Leaver	342	402	399	398	NA
Some Progress	961	1019	1219	1124	NA
Substantial Progress	2256	2483	2625	2532	NA

Progress for Students With Running Start Credit

	Summer 95	Summer 96	Summer 97	Summer 98	Summer 99
Early Leaver	NA	NA	NA	NA	NA
Some Progress	85	99	128	134	NA
Substantial Progress	333	396	495	530	NA

First-Year Need-Based Aid

	Summer 95	Summer 96	Summer 97	Summer 98	Summer 99
No Running Start	2063	2182	2425	2608	2681
Running Start	260	260	338	405	391

First-Year Need-Based Aid

	Summer 95	Summer 96	Summer 97	Summer 98	Summer 99
No Running Start	14%	15%	15%	16%	16%
Running Start	16%	14%	15%	15%	15%

Graduation Efficiency Index for Freshmen Who Started in Summer Indicated Below (transfers not included)

	Summer 95	Summer 96	Summer 97	Summer 98	Summer 99
No Running Start	NA	NA	85	84	85
Running Start	NA	NA	83	83	84

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Number of College Level Credits Accepted

	Summer 95	Summer 96	Summer 97	Summer 98	Summer 99
Running Start Credit	NA	NA	NA	34	35
Other Credit	NA	NA	NA	26	28

Math Experiences of First Year After High School College Students Entering in the Fall

	Summer 95	Summer 96	Summer 97	Summer 98	Summer 99
Took Remedial/ Developmental Math in College	2017	4859 .	5333	5351	5833
Took College Level Math in College	3365	3457	3671	3962	4045
Total Math Takers	5382	8316	9004	9313	9878

Percent of First Year After High School College Students Math Experiences

	Summer 95	Summer 96	Summer 97	Summer 98	Summer 99
Took Remedial/ Developmental Math in College	13%	29%	30%	28%	30%
Took College Level Math in College	21%	21%	20%	21%	21%
Total Math Takers	33%	50%	50%	50%	50%

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APPENDIX G: ADDITIONAL STUDENT PERFORMANCE MEASURES

Over the last eight years, OSPI has asked students for information on their family background and high school experiences (e.g., classes taken, number of absences). Students completed this information when they took the Curriculum Framework Assessment System (CFAS) and ITED in 11th grade. The major finding from these data is that the number of students taking advanced coursework is increasing.

Table 1
Student Self-Reported Information From
CFAS and ITED on Washington 11th Graders From 1995-1998

	SEPT 95 CFAS	SEPT 96 CFAS	SEPT 97 CFAS	SEPT 98 ITED
REPEATED GRADE	12%	12%	11%	10%
TAKING ADVANCED PLACEMENT COURSES	13%	14%	16%	17%
ENROLLED IN ALTERNATIVE HIGH SCHOOL	2%	2%	2%	*
TAKING OR HAVE TAKEN CALCULUS	4%	5%	5%	*
TAKING OR HAVE TAKEN PHYSICS	12%	12%	13%	*
TAKING OR HAVE TAKEN CHEMISTRY	44%	44%	43%	*
TAKING OR HAVE TAKEN THIRD-YEAR FOREIGN LANGUAGE	18%	20%	20%	*
HAVE TAKEN 8TH GRADE FIRST-YEAR ALGEBRA	33%	34%	36%	*

Source: Office of the Superintendent of Public Instruction. Non-responses are not reflected in the percentages reported.

* Information not requested or not comparable.

When race-ethnicity groups were separated, the patterns were quite different from the aggregate average. For example, Asians were less likely than other students to report that they had repeated a grade and more likely to report they had taken advanced or academically challenging courses. Students from non-Caucasian and non-Asian backgrounds were less likely to report that they had algebra in 8th grade or chemistry as of 11th grade.

Table 2
Student Self-Reported Ethnic Information From 1997 CFAS

	NATIVE AMERICAN	ASIAN	AFRICAN AMERICAN	HISPANIC	CAUCASIAN
REPEATED GRADE	20%	9%	15%	19%	12%
TAKING ADVANCED PLACEMENT COURSES	8%	19%	12%	10%	13%
ENROLLED IN ALTERNATIVE HIGH SCHOOL	3%	1%	3%	3%	1%
TAKING OR HAVE TAKEN CALCULUS	3%	8%	4%	4%	4%
TAKING OR HAVE TAKEN PHYSICS	10%	20%	12%	13%	11%
TAKING OR HAVE TAKEN CHEMISTRY	31%	60%	36%	29%	45%
TAKING OR HAVE TAKEN THIRD-YEAR FOREIGN LANGUAGE	12%	29%	19%	23%	17%
HAVE TAKEN 8TH GRADE FIRST-YEAR ALGEBRA	23%	44%	23%	20%	34%

Source: Office of the Superintendent of Public Instruction. Non-responses are not reflected in the percentages reported.

The self-reported data questions on the ITED ended in 1999. This snapshot of students in 11th grade and the variables that correlated with student success in high school and college will be lost. The best time to ask for this information is in either the student's junior or senior year.[1] It may be possible to use the 11th grade science WASL to continue to ask these questions.

Survey for Workforce Training and Education Coordinating Board on High School Students. The Workforce Training and Education Coordinating Board studied 2,100 students in 62 Washington high schools who were 12th graders in 1995-96, and surveyed them in 1998 about their opinions of high school with a focus on school-to-work activities. Most students were positive about their high school experience.[2]

Students ranked the following skills as most helpful:

- developing basic reading skills
- developing basic math skills
- developing basic writing skills
- working with others as a team

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[1] Because the ITED is being moved to the 9th grade, it is no longer the best vehicle for obtaining this information.

[2] Andrew Wiegard and R. D'Amico, *Report on the Student Survey: For An Outcomes Evaluation of School-to-Work Transition Initiatives in Washington State,* Social Policy Research, Merlo Park, CA, 1999, pp. iii-7.

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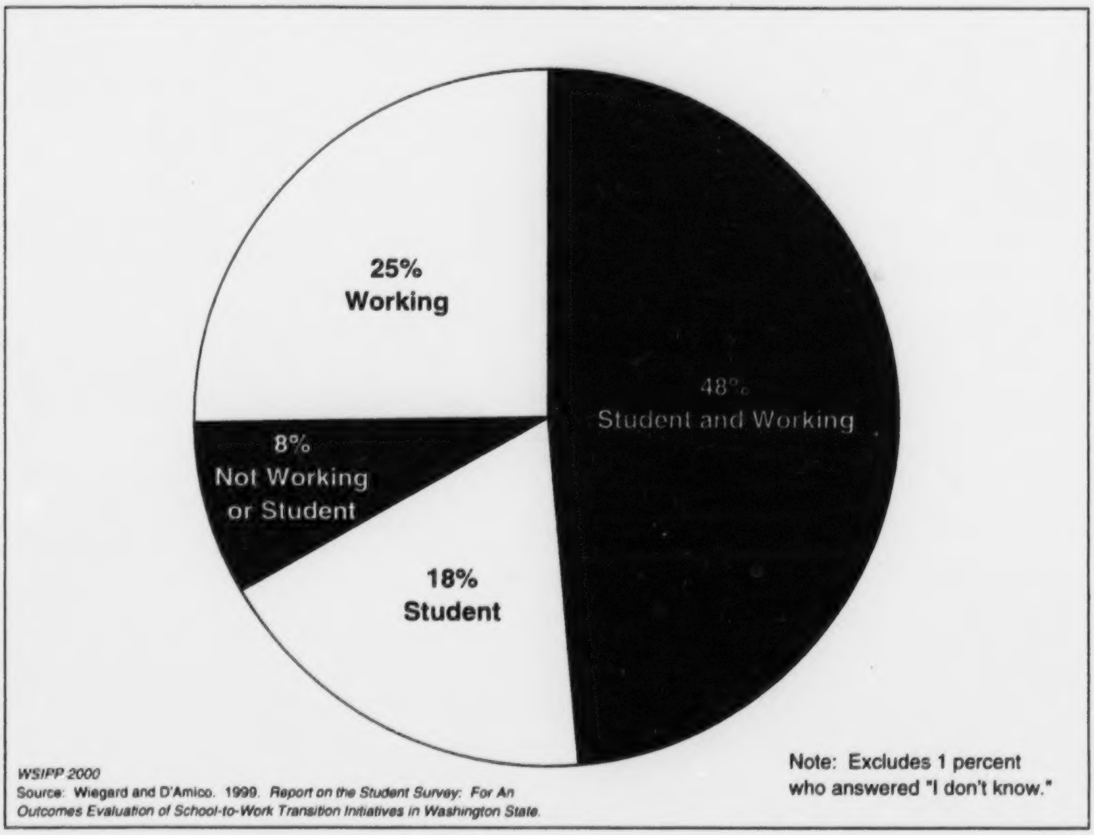
The following skills were ranked as least helpful:[3]

- seeing link between school and the "real" world
- setting goals for the future
- solving problems independently
- understanding what is required for success

Students who graduated in 1995-96 were also asked about their current status. Over 90 percent were either working or a student or both.[4]

Figure 1
1995-96 High School Graduates' Education and Employment Status in 1998



WSIPP 2000
Source: Wiegard and D'Amico. 1999. *Report on the Student Survey: For An Outcomes Evaluation of School-to-Work Transition Initiatives in Washington State.*

Note: Excludes 1 percent who answered "I don't know."

The Workforce Training and Education Coordinating Board's evaluation of high school school-to-work programs will continue to provide information in terms of student outcomes for post-secondary education, employment, and attitudinal information about preparedness. However, the Board's sample is limited to 62 high schools, which reduces the ability to generalize across the state.

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[3] Ibid, pp. iii-5.
[4] Ibid, pp. iii-21.